

How does New Zealand's education system compare?

New Zealand Summary Report of the OECD's *Education at a Glance 2019*





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Published by

Evidence, Data & Knowledge

MINISTRY OF EDUCATION

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September 2019

ISSN 2463-3747

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Key Findings

From early childhood to adult education, *Education at a Glance 2019* paints an overall picture of comparative success for the New Zealand education system.

- **New Zealand is ranked highest in the OECD in terms of educational spending as a percentage of total GDP**
(*Investment in Education*, page 7).
- **The actual salaries of teachers and principals in New Zealand were above the OECD average in 2018 for both primary and secondary schools¹**
(*Our Schooling Workforce*, page 11).
- **Degree completion rates for New Zealand are amongst the top five in the OECD, although New Zealanders on average take longer to complete their degree than many other OECD countries**
(*Tertiary Education*, page 29).
- **Compared to other OECD countries, New Zealand has an above-average proportion of the population with a bachelor's degree**
(*Tertiary Education*, page 29).
- **Fewer adults pursue a master's degree in New Zealand compared to other OECD countries – short post-bachelor's courses are more common in New Zealand, which is rare among OECD countries**
(*Tertiary Education*, page 29).
- **International students account for 20% of all diploma-level and above students in New Zealand and for 50% of doctoral candidates. This is much higher than the OECD averages of 6% for all diploma-level and above students and 22% for doctoral candidates**
(*International students*, page 36; *Doctoral candidates*, page 38)
- **New Zealand has a higher employment rate than the OECD average, particularly for diploma-level and above educated young adults**
(*Employment and financial benefits*, page 47).
- **Our Not in Employment, Education or Training (NEET) rate for 18-24 year-olds is below the OECD average**
(*Schooling*, page 25).

¹ Please note these salaries are from 2018 and predate the new collective agreements negotiated in 2019; see *Collective agreements* on page 6 for further details.

Introduction

Education at a Glance: OECD Indicators (EAG) is an annual Organisation for Economic Co-operation and Development (OECD) publication.² It compares the education systems of the OECD member countries and a set of partner countries to build a picture of education around the world. EAG is a key reference for assessing New Zealand's education system in an international context.

The focus of *Education at a Glance 2019* is tertiary education, and includes new indicators on doctoral candidates in OECD countries. 'Tertiary education' is used in *Education at a Glance* to refer to everything from diploma-level qualifications to doctorates. This is different to how the term 'tertiary education' is used in New Zealand, where it can any level of education that is provided in a post-school environment. Hence, care is needed when interpreting 'tertiary education' results from *Education at a Glance*. To avoid confusion, we've referred to these results as 'diploma-level and above' throughout this summary report.

This report, *How Does New Zealand's Education System Compare? OECD's Education at a Glance*, is an annual Ministry of Education publication designed to complement the release of the 2019 EAG. It contextualises and more closely examines how New Zealand's education system compares, noting areas where it performs above or below OECD averages.

New Zealand's data for EAG stems from four periods: educational attainment and labour market outcomes use 2018 data, school teacher data 2017/2018, other education indicators 2017 data, and financial indicators the 2016/2017 financial year.

The full EAG report includes over 160 country comparison tables and graphs covering a number of education system indicators including:

- Educational attainment in the population
- Participation and achievement
- Expenditure on education
- Transitions from school to work
- Employment and earnings, and returns on educational investment
- Education and social outcomes
- International education
- Teachers: teacher-student ratios, salaries, working time, demographics and teacher tasks and duties
- Student financial support and tuition fees
- How early childhood systems differ around the world
- Adult learning.

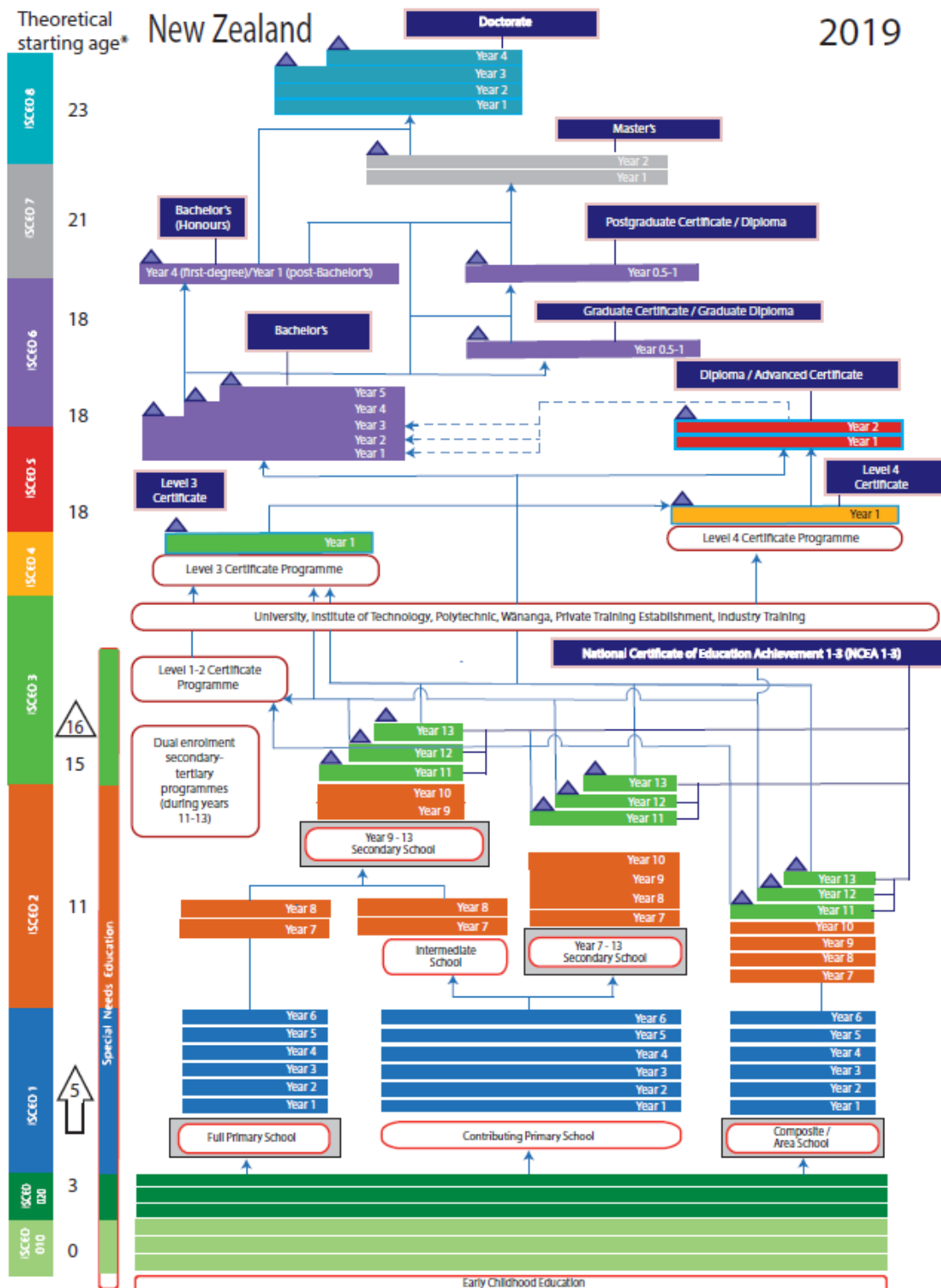
Key findings for New Zealand are presented in this summary report. As the full EAG report covers the 37 OECD countries, OECD and European Union averages, plus information from 9 partner countries and other economies when necessary, the graphs have been simplified here to focus on those countries considered most comparable to New Zealand: Australia, Canada, Denmark, Finland, Ireland, Japan, Norway, South Korea, Sweden, the United Kingdom and the United States. The ranks of each country compared to the full set of countries are provided in each graph in this report, though please note that not all countries contributed data to every indicator.

Readers can find the full 2019 EAG online, including all tables and graphs, at <http://www.oecd.org/education/>.

² The Organisation for Economic Co-operation and Development (OECD), established in 1961, is an intergovernmental organisation aimed at promoting economic and social growth globally. There are 37 member countries, including New Zealand.

Figure 1 shows how the International Standard Classification of Education (ISCED) education levels used by the OECD matches up to New Zealand's education system.³

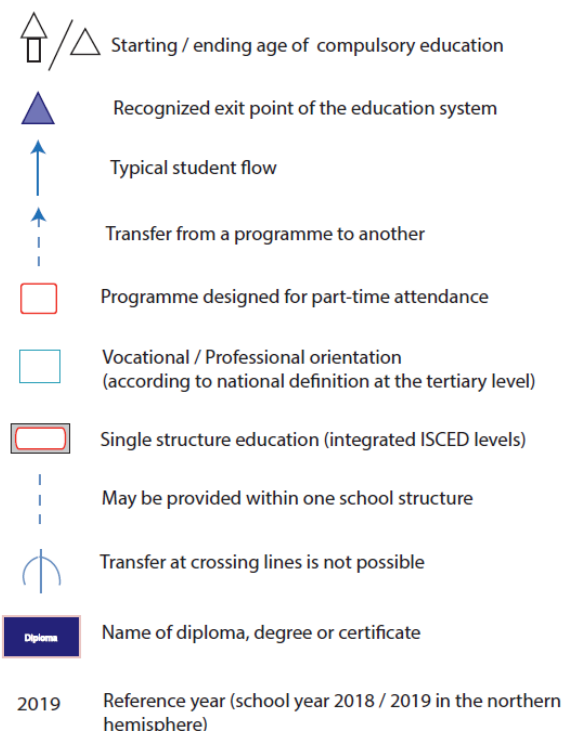
Figure 1 ISCED level 1 is equivalent to our Years 1-6, ISCED 2 is our Years 7-10, and ISCED 3 is our Years 11-13



³ The International Standard Classification of Education (ISCED) is a statistical framework for organizing information on education maintained by the United Nations Educational, Scientific and Cultural Organization (UNESCO). It is a member of the international family of economic and social classifications of the United Nations.

Notes on *Education at a Glance 2019*

Key for ISCED diagram



* Theoretical starting ages refer to the ages as established by law and regulation for the entry to a programme, actual starting ages may vary depending on the programme.

Lower secondary education

The OECD refers to lower and upper secondary education – ISCED 2 is lower secondary education, and ISCED 3 is upper secondary education (Figure 1). For New Zealand, lower secondary refers to Years 7 to 10, and upper to Years 11 to 13, as well as any level 1–3 post-school education (primary education covers Years 1 to 6). Because of the structure of the New Zealand school system, we don't have many stand-alone lower secondary schools – some primary schools include Years 7 and 8, some secondary schools include Years 7 and 8, we have separate intermediate schools covering Years 7 and 8, and some schools, including area schools, cover Years 1 to 13.

So how do we calculate the workforce statistics for lower secondary in New Zealand? In general, teachers who teach the first two years of lower secondary education (Years 7 and 8) have the same contracts as those who teach primary level, while the teachers' teaching the last two years of lower secondary education (Years 9 and 10) have the same salary and working time conditions as those who teach upper secondary level. Thus, the number of days a teacher teaches per annum and the number of scheduled non-teaching hours at school per annum for lower secondary level (ISCED 2) are averaged values of primary (ISCED 1) and upper secondary levels (ISCED 3 and 4). These are unweighted averages.

Upper secondary qualifications

Education at a Glance 2019 frequently refers to “upper secondary qualifications”. In the New Zealand context, a person has an upper secondary qualification if they have achieved a Level 2 certificate such as NCEA Level 2, or an equivalent level qualification. A ‘below upper secondary’ qualification is a Level 1 certificate or equivalent, or below. These qualifications can be gained either through any form of education institution, not just secondary schools.

General and vocational education

The ISCED system differentiates between general and vocational education. Upper secondary in ISCED (and therefore in *Education at a Glance 2019*) includes both schooling Levels 1-3 as well as post-schooling Levels 1 to 3 (as mentioned above). While our initial schooling is general-programme oriented in New Zealand, our post-schooling “upper secondary” is mostly vocational-programme oriented.

In short, for New Zealand general programmes refers to programmes within schools, and vocational programmes refers to an equivalent level of education in non-school settings.

Post-secondary non-tertiary education

Education at a Glance 2019 sometimes refers to post-secondary non-tertiary education (ISCED 4, Figure 1). In the New Zealand context, this means Level 4 certificates.

Tertiary education

‘Tertiary education’ is used in *Education at a Glance 2019* to refer to everything from diploma-level qualifications to doctorates (ISCED 5 to ISCED 8, Figure 1). This is different to how the term ‘tertiary education’ is used in New Zealand, where it can any level of education that is provided in a post-school environment. Hence, care is needed when interpreting ‘tertiary education’ results from *Education at a Glance 2019*.

All qualifications from Level 5 and above are counted as ‘tertiary’ education in *Education at a Glance 2019*. In this report we refer to this level of education as ‘diploma-level and above’ throughout this report.

Purchasing power parity

Financial figures in this report and the OECD’s *Education at a Glance 2019* are given in United States dollars (USD), converted using purchasing power parity (PPP). Local currencies are converted in USD using PPP to compare incomes and expenditures between countries, factoring in the different purchasing power of each countries’ currency due to different relative costs of living. Using PPP is a way to standardise income and expenditure between different countries that is more equitable than simply using exchange rates which can be artificially inflated or deflated.

Collective agreements

In New Zealand, teacher salary bands and working conditions are set by collective agreements negotiated between education workers’ unions and the Ministry of Education. The previous collective agreements for the education workforce have expired and new collective agreements have been negotiated and approved, setting new salary bands and working conditions. Many of these collective agreements take effect from June 2019 onwards and will be reflected in *Education at a Glance 2020* and later publications. While a common base salary scale will apply for secondary, primary and kindergarten teachers from July 2019 onwards, remuneration for additional responsibilities will continue to be differentiated by sector.

The data on workforce in *Education at a Glance 2019* is based on New Zealand’s education workforce in 2017 and 2018, and therefore reflects the previous collective agreements.

Fees-free tertiary study

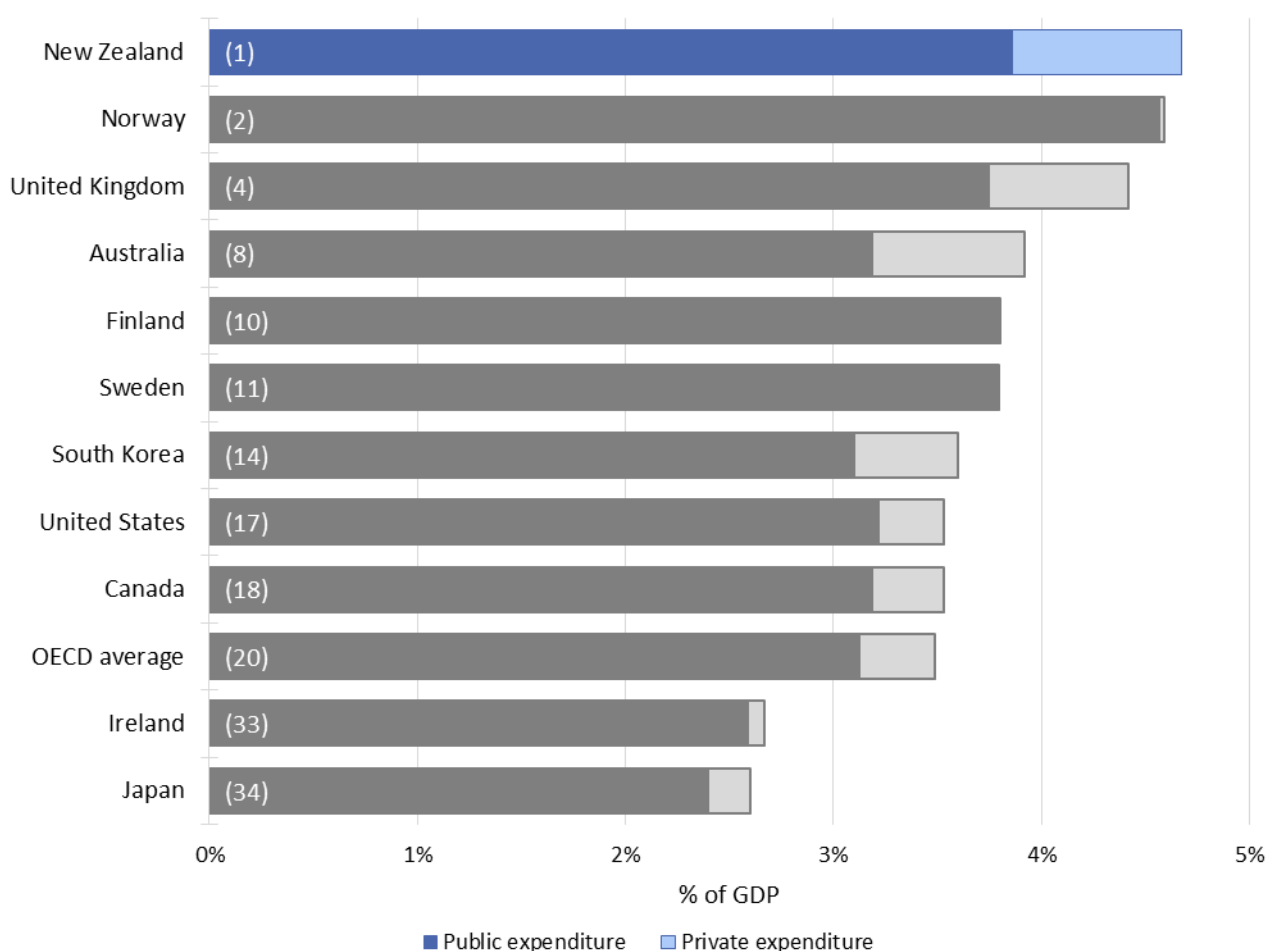
In 2018, the New Zealand government made the first year of tertiary fees free for most domestic students. As the data in *Education at a Glance 2019* on tertiary fees is from 2017 and earlier, the impact of this policy change is not covered by *Education at a Glance 2019*.

Investment in Education

Investment in education is an investment in our future. Relative to national wealth, New Zealand invests heavily in education compared with the rest of the OECD. We consistently rank highly in terms of total expenditure on education as a percentage of GDP and of total government expenditure.

New Zealand invests heavily in education compared to the rest of the OECD, spending nearly 5% of our Gross Domestic Product (GDP) on education in 2016. This puts us at the highest rank within the OECD in terms of total expenditure on pre-tertiary education institutions as a percentage of GDP (Figure 2), followed by Norway.

Figure 2 New Zealand is the top ranked country for total expenditure on pre-tertiary educational institutions as a percentage of Gross Domestic Product

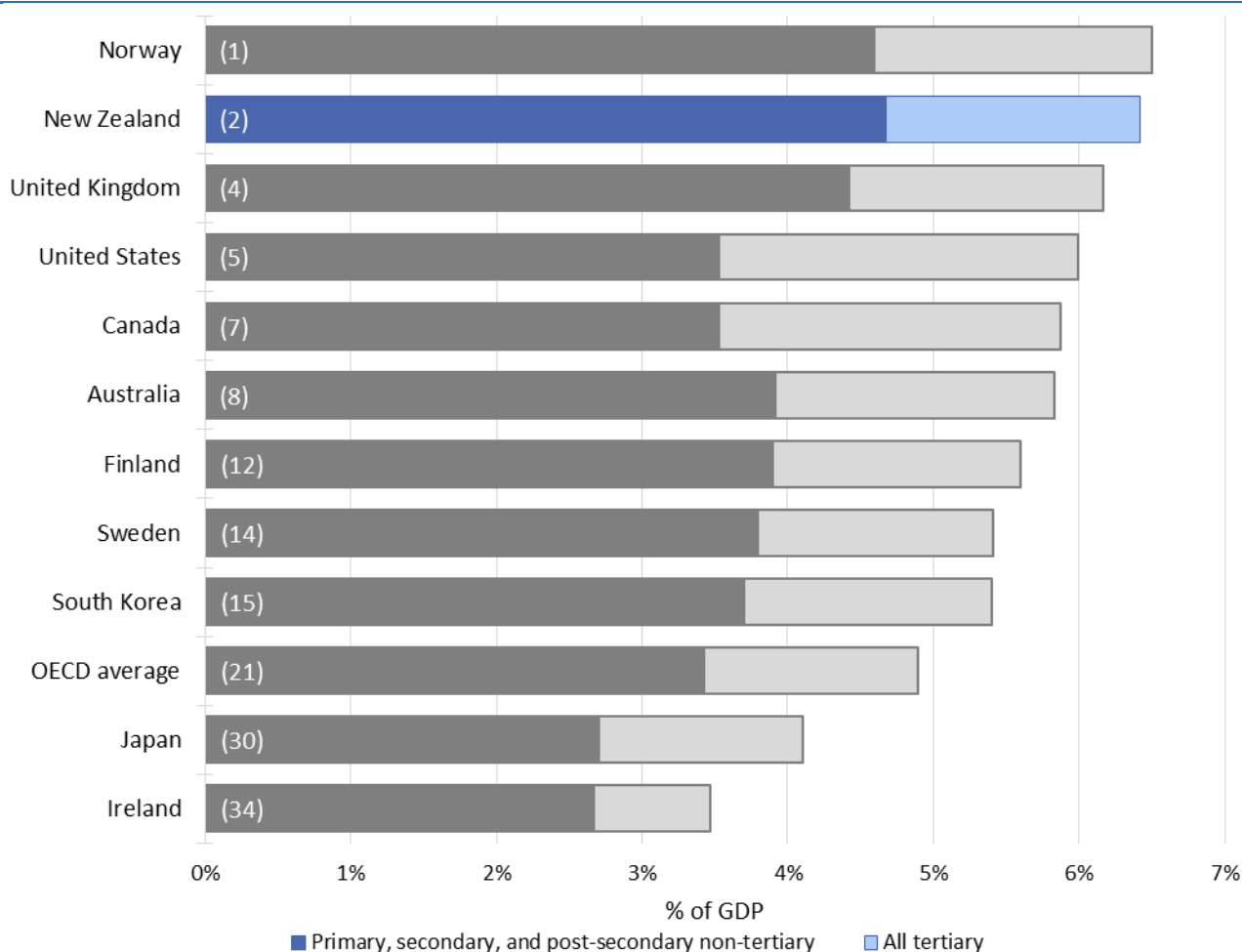


Total expenditure on educational institutions as a percentage of GDP, by source of funds (2016). Countries are ranked (in brackets) in descending order of total expenditure on educational institutions as a percentage of GDP.

This expenditure includes spending on primary, secondary, and all Level 1 to 4 study done at all educational institutions, but excludes spending on diploma-level and above education (tertiary education as defined by the OECD).

Once spending on diploma-level and above education is added in, we move to second place behind Norway (Figure 3). New Zealand spent 4.7% of our GDP on below diploma level education and 1.7% on diploma levels and above in 2016 (Figure 3), well above the OECD average of 3.4% of GDP on non-tertiary institutions and 1.5% on tertiary institutions.

Figure 3 New Zealand spent 6.4% of our GDP in 2016 on our educational institutions, ranking us 2nd within the OECD

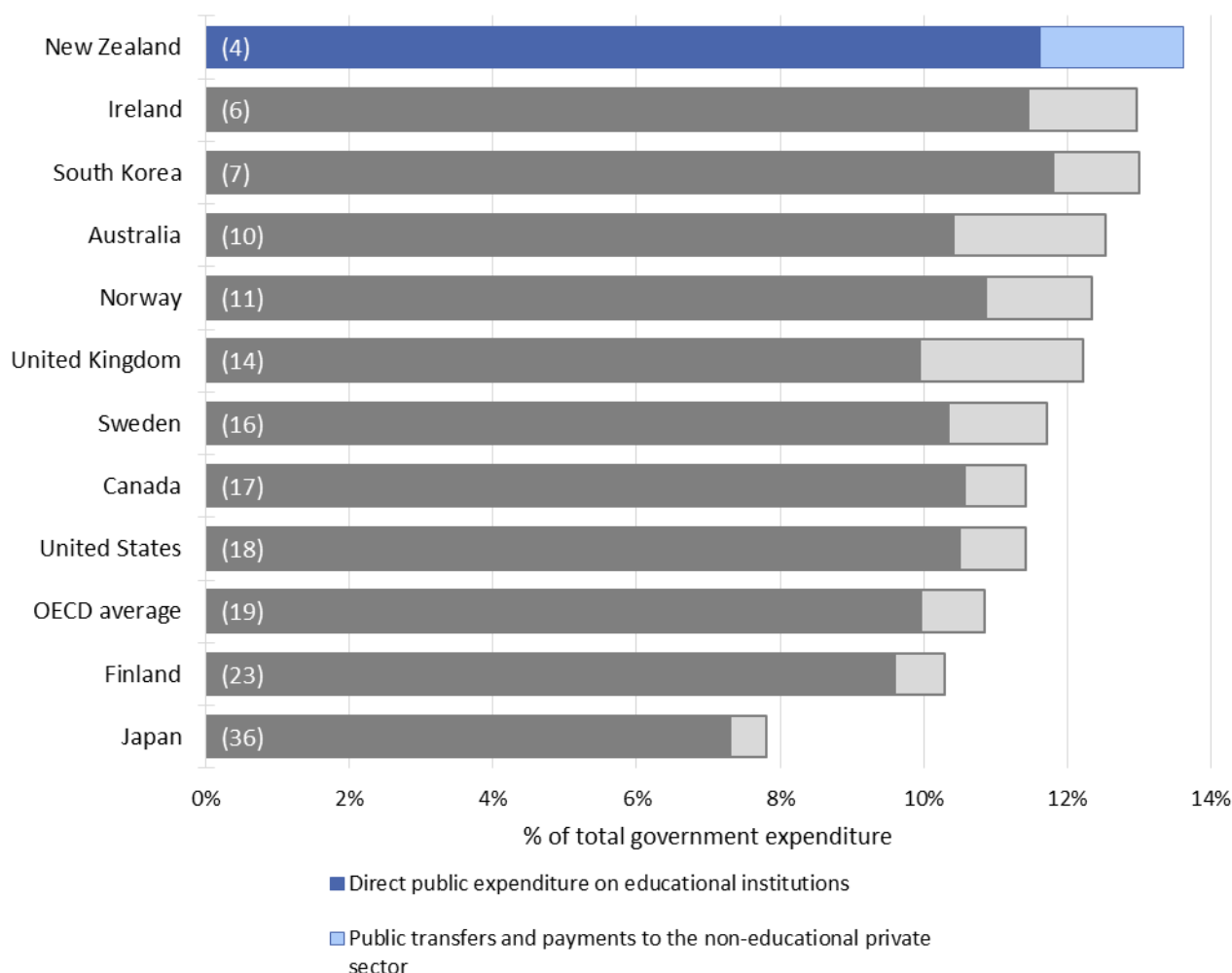


Total expenditure on educational institutions as a percentage of GDP (2016). Countries are ranked (in brackets) in descending order of total expenditure on educational institutions as a percentage of GDP.

New Zealand ranks highly in terms of total public expenditure on education (Figure 4), behind Chile, Mexico and Brazil. Overall, 13.6% of New Zealand's total government expenditure is spent on education – 11.6% is direct public expenditure (such as funds and subsidies paid directly to institutions from the government), while the remaining 2% are public transfers and payments to the non-educational private sector (such as student loans – funds that come from the government to educational institutions via student fees). This spending is far above the 10.9% of total government expenditure being spent on education across the OECD on average.

Please note that the data in Figure 4 is for the 2016/2017 financial year. Any impacts from the introduction in 2018 of first-year fees-free study for first-time eligible students are not included in this data.

Figure 4 New Zealand is ranked 4th in the OECD in terms of the share of total public expenditure allocated to education

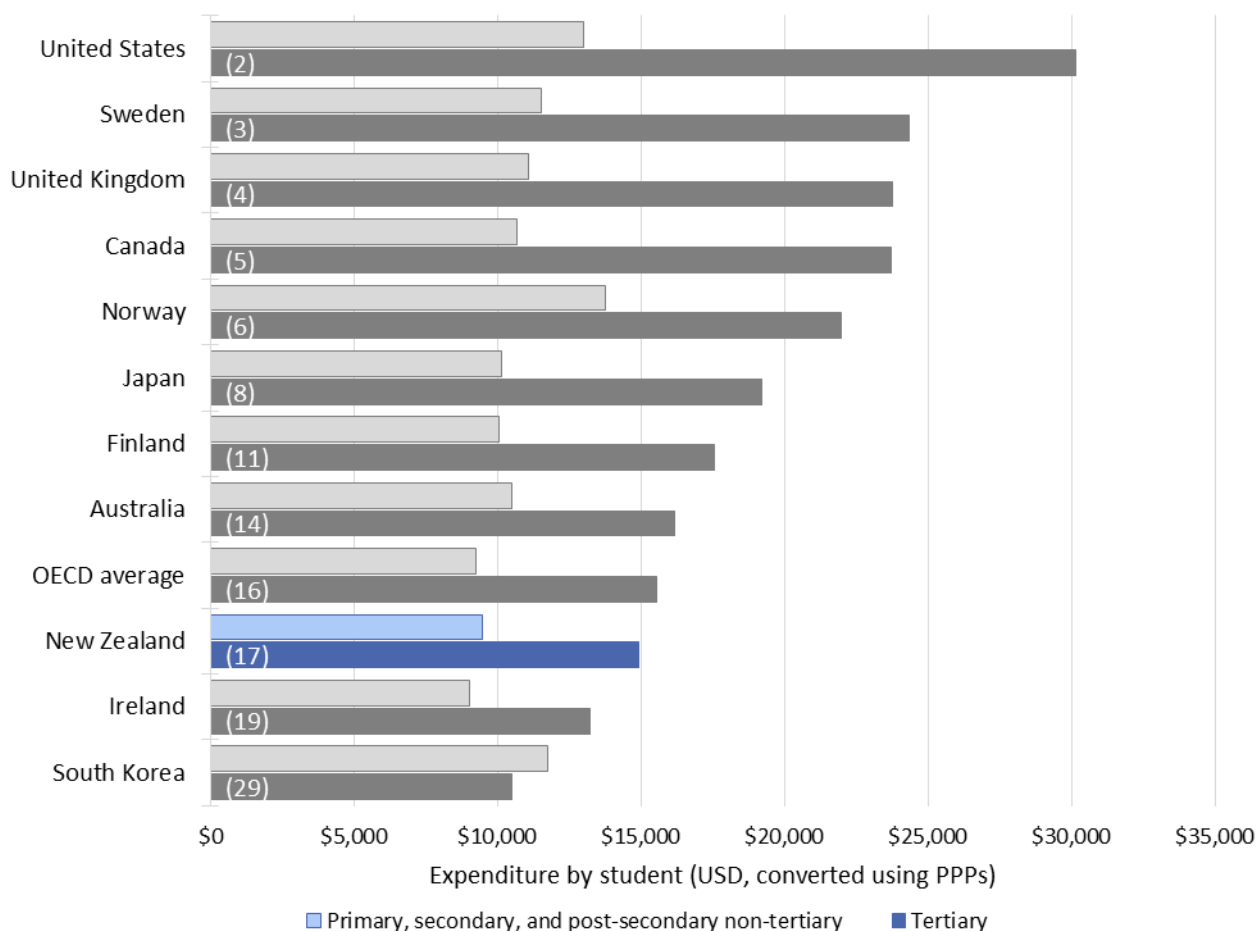


Composition of total public expenditure on education as a percentage of total government expenditure (2016). Countries are ranked (in brackets) in descending order of total public expenditure on education as a percentage of total government expenditure.

Our expenditure on educational institutions per full-time equivalent student is lower than other countries, though we still perform around the OECD average (Figure 5) in terms of expenditure per student.⁴ We spent an average of US\$9,487 per student in primary, secondary, and post-secondary non-tertiary institutions in 2016, above the OECD average of US\$9,271. We spent US\$14,933 per student on diploma level and above study in tertiary institutions in 2016, higher than what we spent on non-tertiary students. This expenditure is slightly lower than the OECD average of US\$15,556 spent on tertiary institutions per student.

⁴ All expenditure figures are given in US dollars, converted from the local currency using purchasing power parity to ensure comparability across currencies. Please see *Purchasing power parity* in the *Introduction* for further details.

Figure 5 New Zealand is close to the OECD average for expenditure per student



Total expenditure on tertiary educational institutions per full-time equivalent student relative to primary, secondary, and post-secondary non-tertiary education (2016). Countries are ranked (in brackets) in descending order of the total expenditure per student on tertiary education.

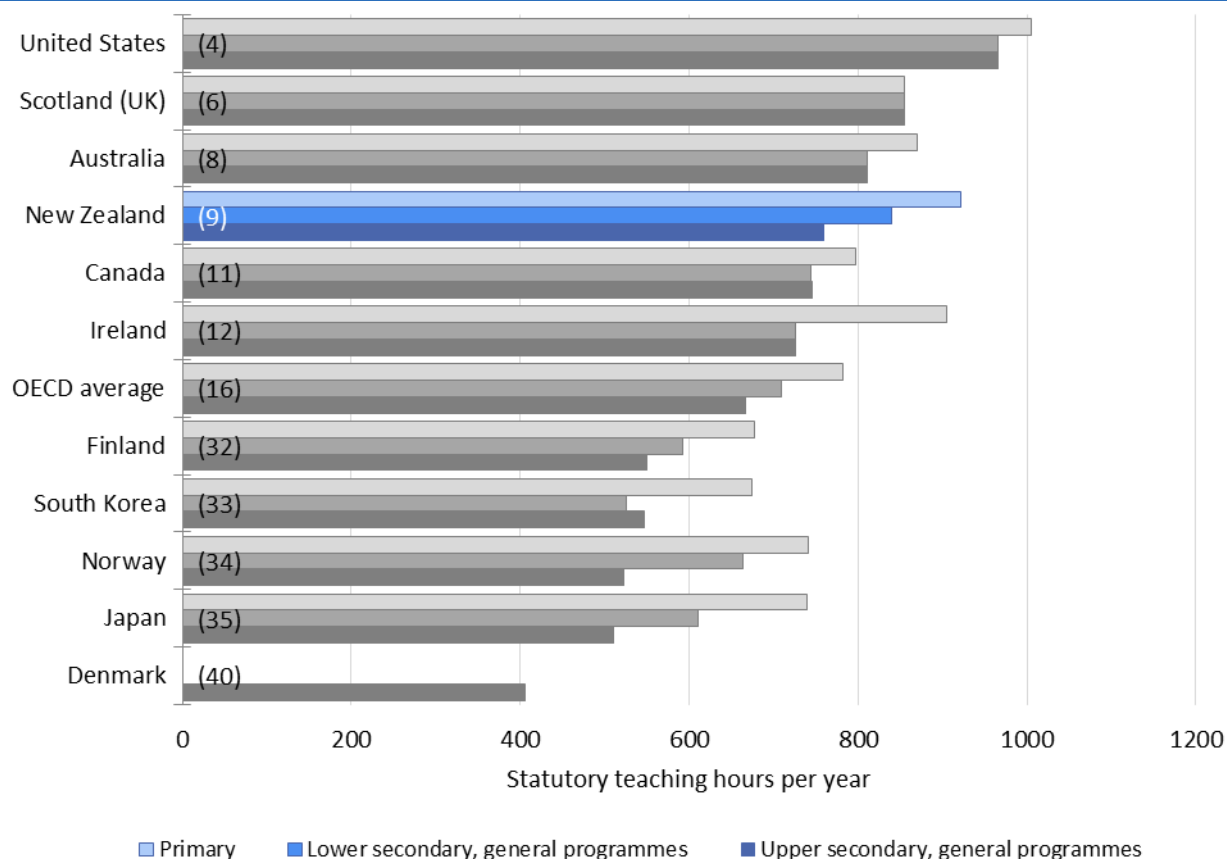
Overall, New Zealand performs well on education expenditure in terms of GDP, as we spend proportionally more on education than many other countries, though our per-student costs in dollar terms are around the OECD average.

Our Schooling Workforce

Compared to other OECD countries, statutory teacher salaries in New Zealand start lower, but increase faster than the OECD average. The salary range for teachers in New Zealand has a lower maximum than that in other OECD countries, and our teaching hours are above the OECD average.

New Zealand's statutory teaching hours are relatively high compared to other OECD countries (Figure 6).⁵ These statutory hours will change in future due to the negotiation of the new collective agreements as discussed on page 5.

Figure 6 New Zealand has relatively high teaching hours in the school year



Number of teaching hours per year, by level of education (2018). Countries and economies are ranked (in brackets) in descending order of the number of teaching hours per year in general upper secondary education.

The required contact hours for primary school teachers in New Zealand are higher than for secondary school teachers, as they are in many comparable countries (Figure 6). The Primary Teachers' Collective Agreement

⁵ Please note that early childhood education teachers are excluded from the definition of 'teachers' within *Education at a Glance*. This report follows suit when discussing the salaries and working hours of teachers in New Zealand – early childhood education teachers are largely excluded, except for in Figure 16 regarding gender ratios among teaching staff, and Figure 22 regarding staff to child ratios in early childhood education.

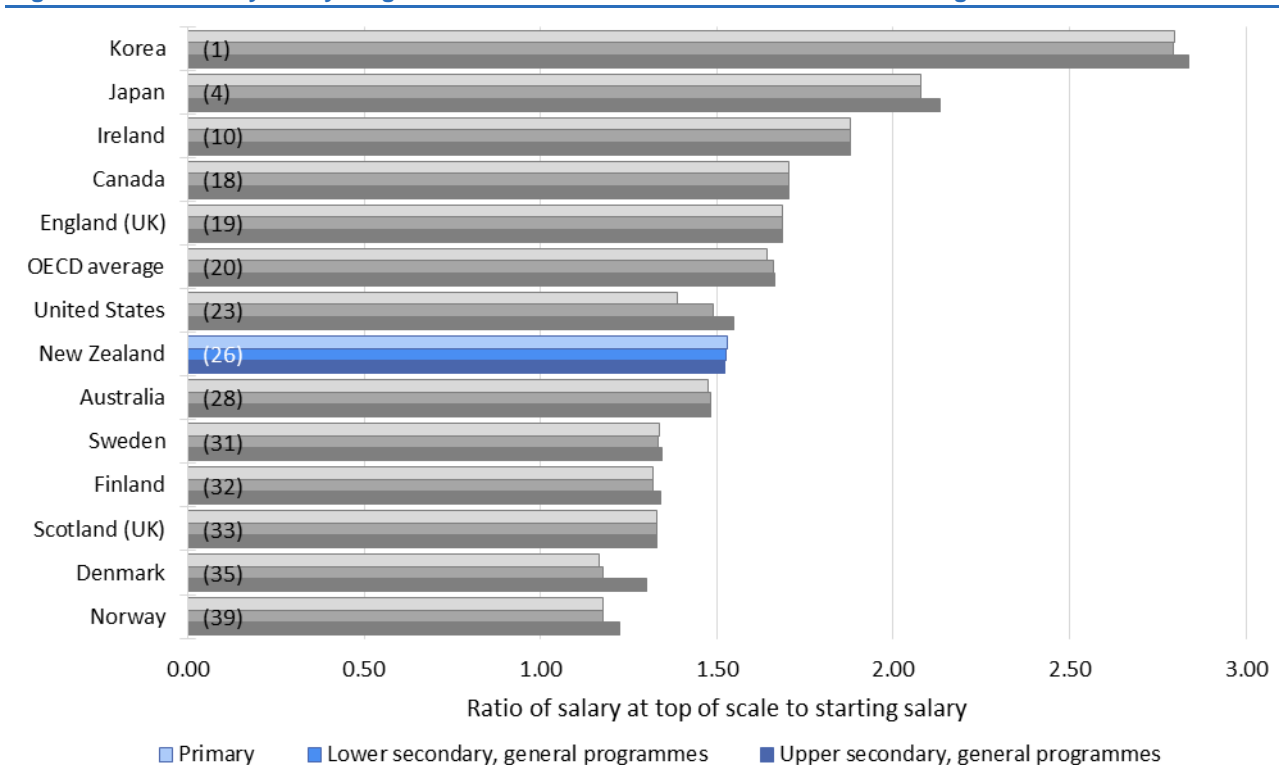
that was in force in 2018 stated that "as far as practical" teachers should work 40 hours a week (though overtime is possible). The number of working days each year for primary schools is set by the Minister of Education and is not contained in the Primary Teachers' Collective Agreement. Generally, the number of working days each year is set between 192 and 196, and in 2018 this worked out to be a total of 922 teaching hours for primary teachers.

The Secondary Teachers' Collective Agreement that was in force in 2018 stated that students were expected to have 25 hours instruction time a week, and teachers were expected to have 20 hours of contact time a week. Secondary schools in New Zealand are generally required to be open for instruction for at least 380 half days in any one calendar year. This can be simplified to say that the statutory required teaching hours for secondary school teachers in New Zealand in 2018 was 760 hours, which is shown in Figure 6.

As mentioned previously on page 5, when calculating lower secondary statistics in New Zealand the average of primary and secondary data is taken. Therefore, we have a figure of 840 teaching hours for lower secondary teachers in New Zealand (Figure 6).

In addition to base (statutory) salaries, the Ministry of Education in New Zealand makes available salary units which the school board can allocate to teaching staff to recognise management or extra responsibilities that teachers take on, and for recruitment, retention and reward. These are allocated at the discretion of school boards and are not available to all teachers at the top of the salary band.⁶ Statutory salaries are therefore the salary rates outlined in the collective agreements, whereas actual salaries are what teachers are paid – including salary units and other allowances. Actual salaries are generally higher than statutory salaries.

Figure 7 The statutory salary range is smaller in New Zealand than the OECD average



Ratio of salary at top of scale to starting salary (2018). Countries and economies are ranked (in brackets) in descending order of ratio of salary at top of scale to starting salary for upper secondary teachers.

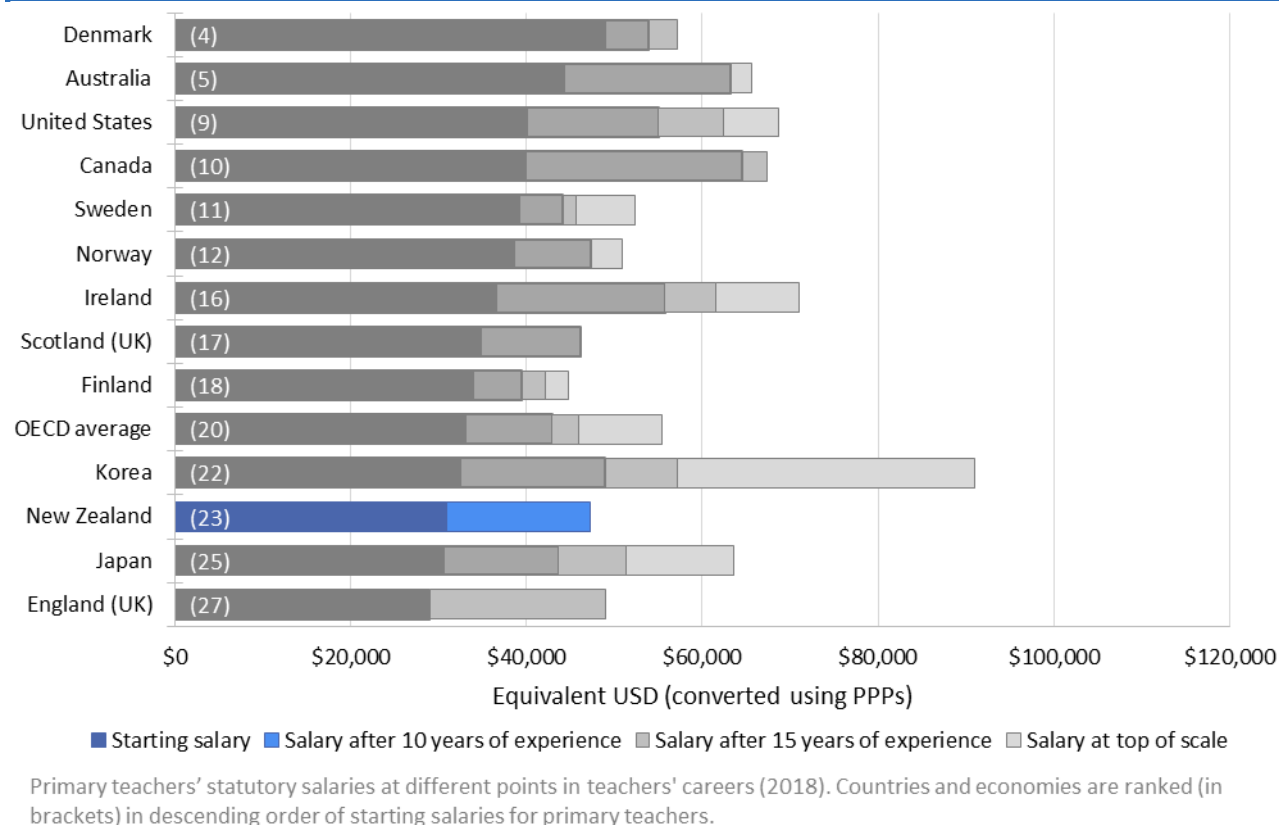
Statutory salary range is relatively small in New Zealand. The ratio for starting statutory salaries to salaries at the top of the statutory salary scale for primary, lower secondary and upper secondary teachers in New Zealand are around 1.53 – meaning that from the bottom of the scale to the top of the scale, statutory

⁶ While a common base salary scale will apply for secondary, primary and kindergarten teachers from July 2019 onwards, remuneration for additional responsibilities will continue to be differentiated by sector under the new collective agreements.

salaries increased by 53% (Figure 7). This is lower than the OECD average, which ranges from 1.64 for primary teachers to 1.67 for upper secondary teachers.

The statutory starting salary for primary school teachers in New Zealand was US\$30,890 in 2018, below the OECD average of US\$33,058 (Figure 8). After ten years of experience, the statutory salary for primary school teachers in New Zealand was US\$47,311 – above the OECD average of US\$42,896 for teachers with ten years of experience. Unlike in many other OECD countries however, the salaries for our primary school teachers do not continue to grow. Our primary teachers reach the top of their salary scale relatively quickly, and then remain there (similar to in Scotland).

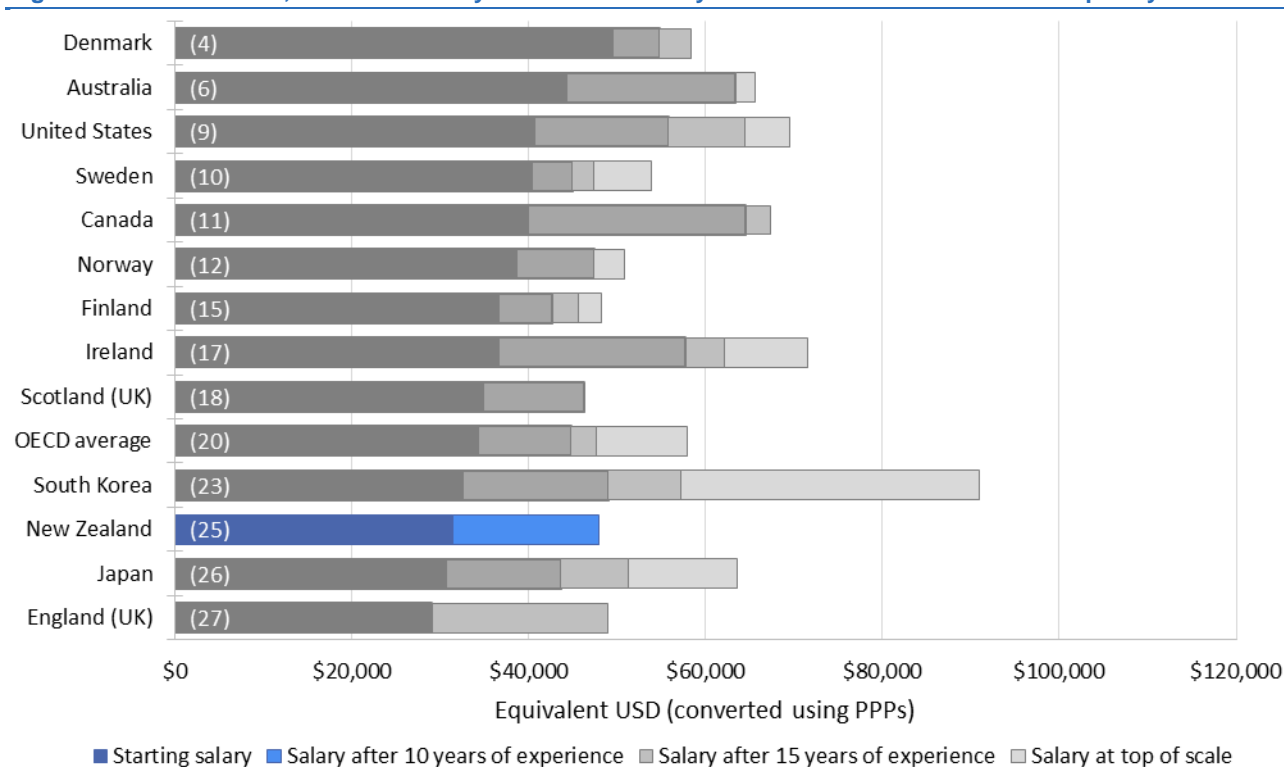
Figure 8 Primary teachers' starting statutory salaries in New Zealand in 2018 were below the OECD average



When they first begin teaching, the statutory salary for our lower secondary teachers in New Zealand was US\$30,891 in 2018 (Figure 9). This places us 25th within the OECD and associated countries and economies,⁷ below the OECD average starting salary of US\$34,094. When we examine salaries for teachers with 15 years of experience, teachers in New Zealand, Denmark, and Scotland have already reached the top of the salary scale.

⁷ For salary information, the United Kingdom isn't reported. England and Scotland are reported instead.

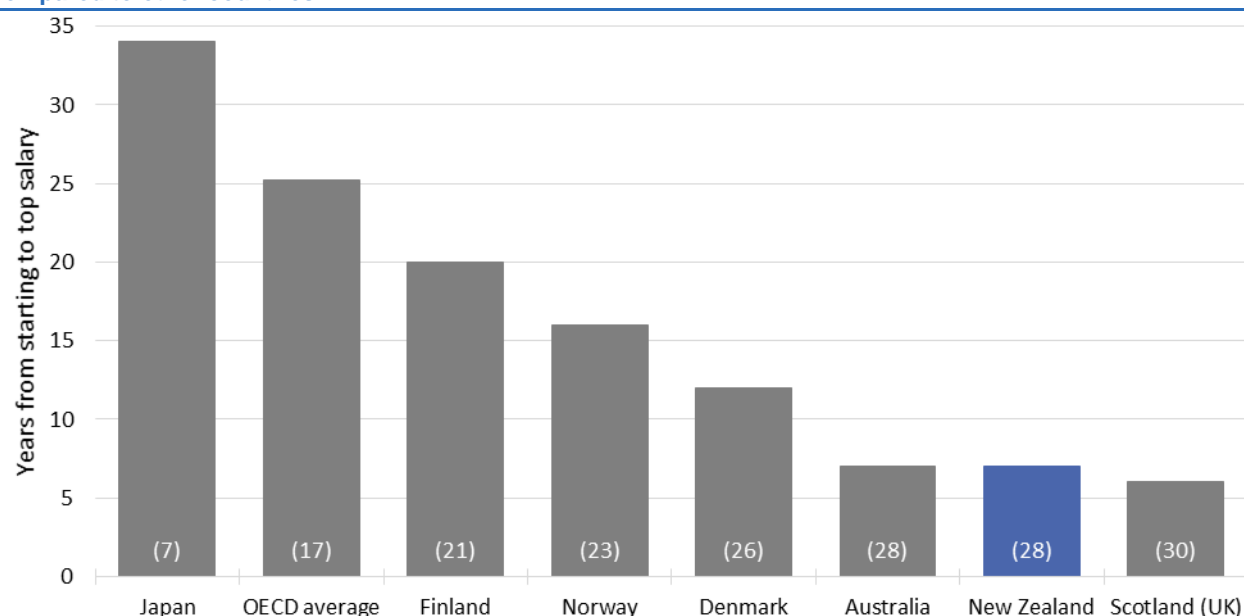
Figure 9 In New Zealand, lower secondary teachers' statutory salaries start low then advance quickly



Lower secondary teachers' statutory salaries at different points in teachers' careers (2018). Countries and economies are ranked (in brackets) in descending order of starting salaries for lower secondary teachers.

In fact, lower secondary teachers in New Zealand typically reach the top of the salary scale (US\$47,950) after seven years. This is much quicker than in other countries – across the OECD, it takes an average of 25 years for teachers to reach the top of their salary scale (Figure 10). It also takes 7 years for lower secondary teachers in Australia to reach the top of the salary scale, and it takes only 6 years in Scotland.

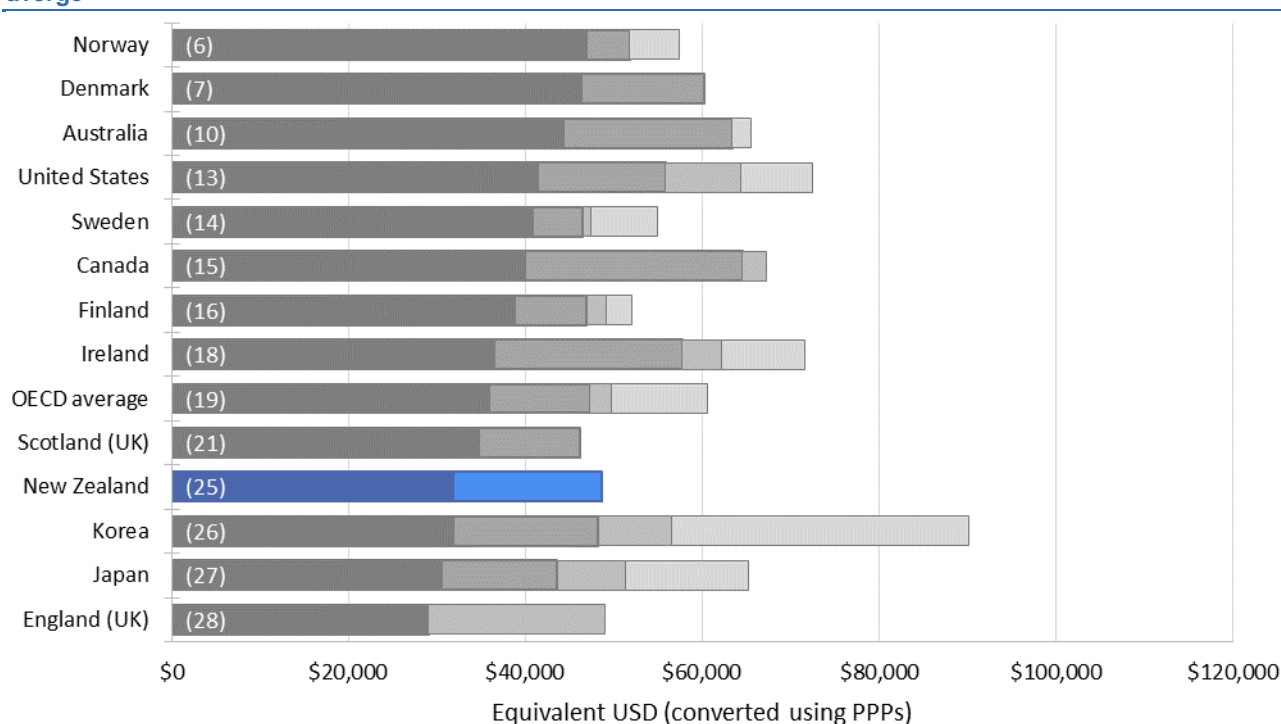
Figure 10 Lower secondary teachers reach the top of their salary scale relatively quickly in New Zealand compared to other countries



Years from starting to top salary (lower secondary education, 2018). Countries and economies are ranked (in brackets) in descending order of years from starting to top salary for lower secondary teachers.

The statutory starting salary for upper secondary school teachers in New Zealand was US\$31,894 in 2018, below the OECD average of US\$35,859 (Figure 11). After ten years of experience, the statutory salary for upper secondary school teachers in New Zealand was US\$48,589 – above the OECD average of US\$47,332 for upper secondary teachers with ten years of experience. As with the statutory salaries for our primary and lower secondary, the statutory salaries for our upper secondary school teachers do not continue to increase. Our upper secondary teachers reach the top of their salary scale relatively quickly, and then remain there (similar to in Scotland).

Figure 11 Upper secondary teachers' starting statutory salaries in New Zealand in 2018 were below the OECD average

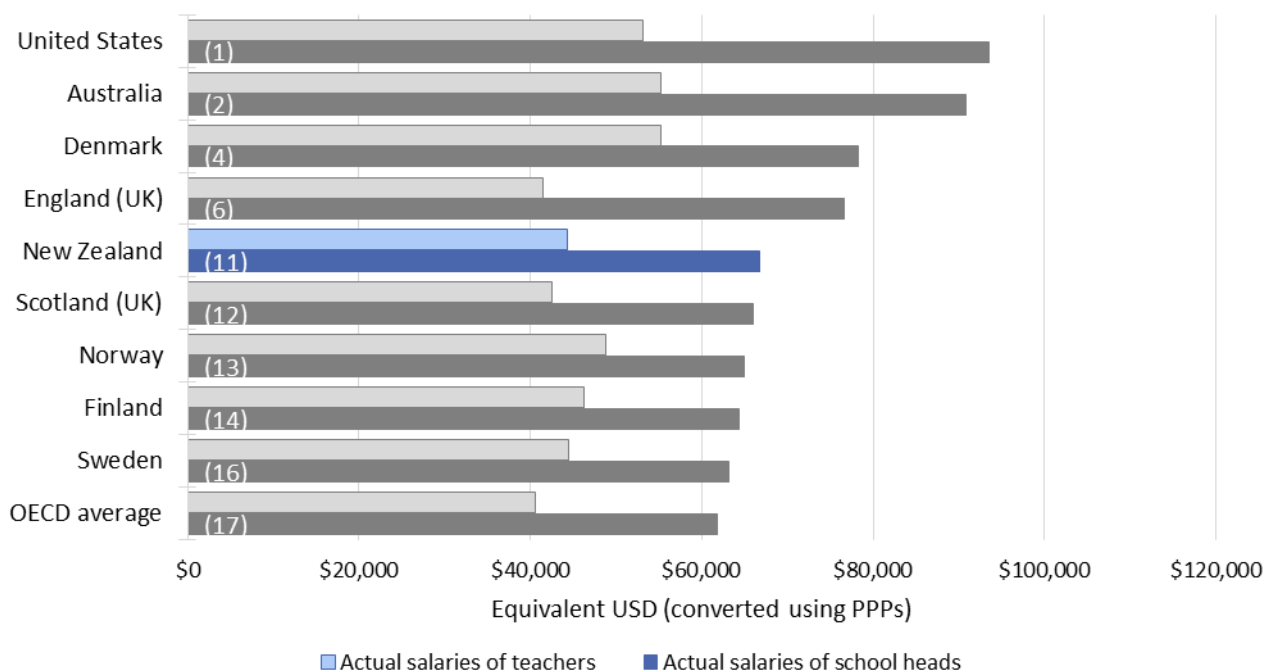


Upper secondary teachers' statutory salaries at different points in teachers' careers (2018). Countries and economies are ranked (in brackets) in descending order of starting salaries for upper secondary teachers.

While the statutory salaries of teachers in New Zealand are below the OECD average, the actual salaries paid to our teaching staff are above the OECD averages for primary, lower secondary and upper secondary teachers and school heads (Figure 13). As in most OECD countries, the salaries of school heads (principals) in New Zealand are higher than that of teachers.

In 2017, the average actual salary of primary school teachers in New Zealand was US\$44,339, above the OECD average of US\$40,580 (Figure 12). In New Zealand, the average actual salary of a primary school head (principal) in 2017 was US\$66,711, higher than the OECD average of US\$61,791. New Zealand is ranked 11th out of OECD countries in terms of primary school head average actual salary.

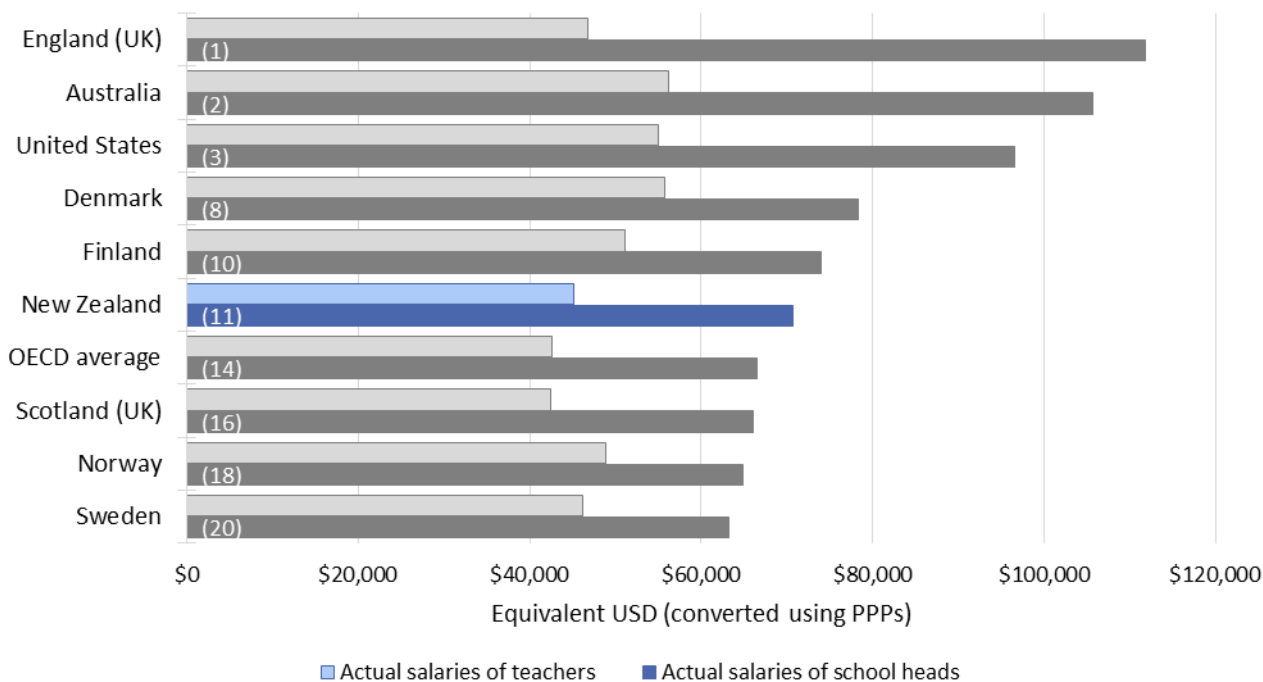
Figure 12 The average actual salaries of primary school teachers and principals in New Zealand were above the OECD average in 2017



Actual salaries of primary teachers and school heads (2017). Countries and economies are ranked (in brackets) in descending order of actual salaries of school heads.

In 2017, the average actual salary of lower secondary school teachers in public institutions in New Zealand was US\$45,203, higher than the OECD average of US\$42,553 (Figure 13). The average actual salaries of our lower secondary school heads (principals) were also above the OECD average.

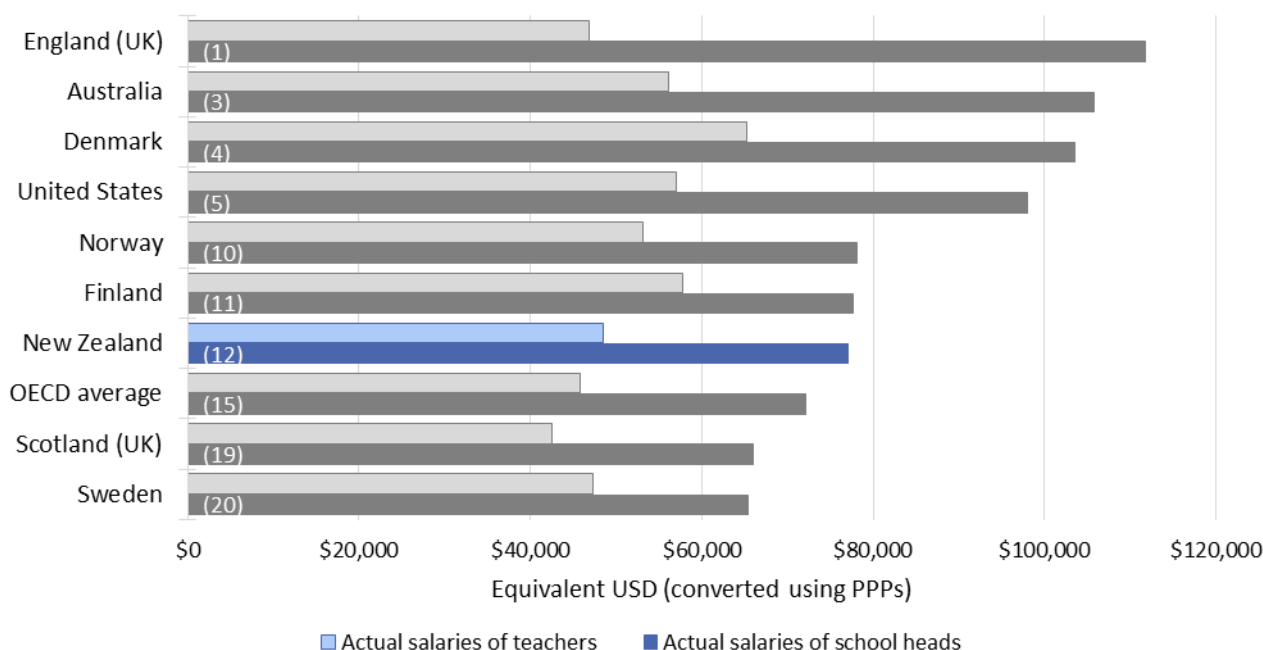
Figure 13 The average actual salaries of lower secondary teachers and principals in New Zealand were above the OECD average in 2017



Actual salaries of lower secondary teachers and school heads (2017). Countries and economies are ranked (in brackets) in descending order of actual salaries of school heads.

In 2017, the average actual salary of upper secondary school heads (principals) in public institutions in New Zealand was US\$77,079, higher than the OECD average of US\$72,081 (Figure 14). The average actual salaries of our upper secondary teachers was also above that of the OECD average.

Figure 14 The average actual salaries of upper secondary teachers and principals in New Zealand were above the OECD average in 2017



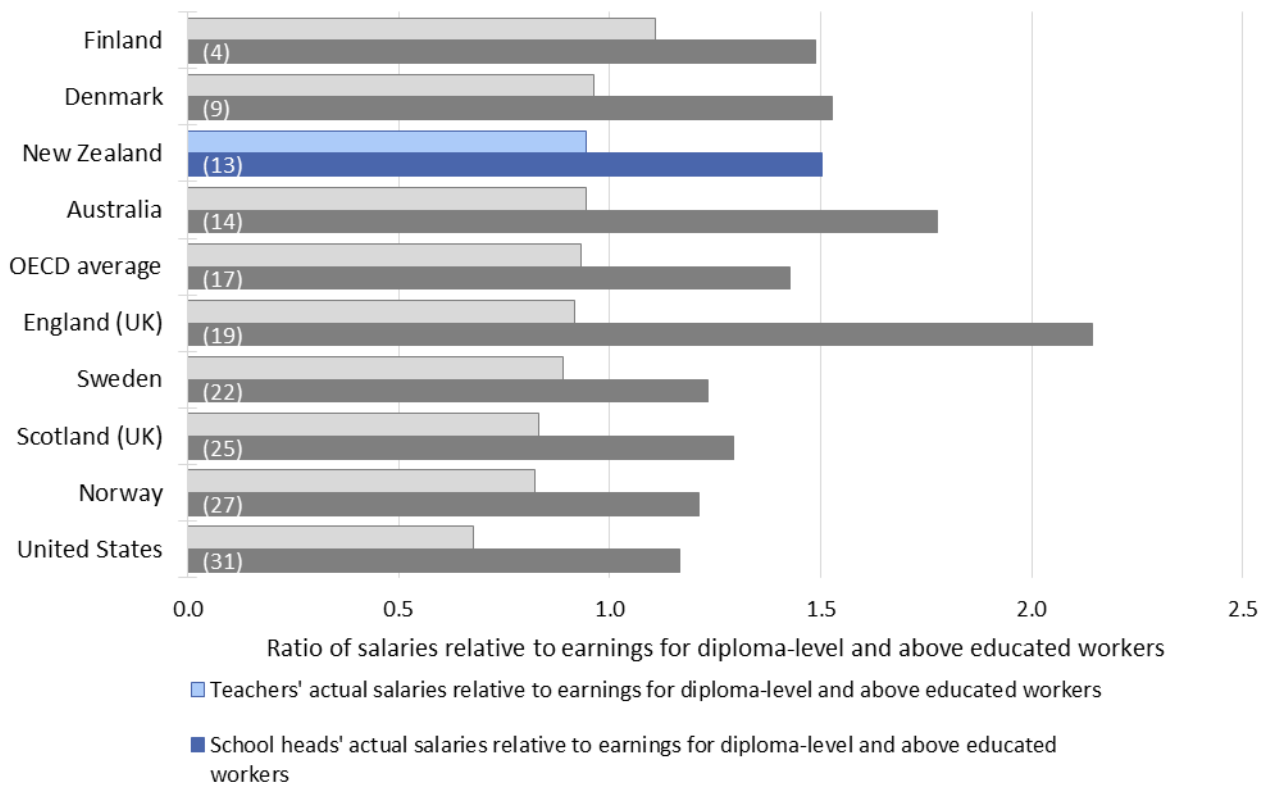
Actual salaries of upper secondary teachers and school heads (2017). Countries and economies are ranked (in brackets) in descending order of actual salaries of school heads.

The average actual salaries for lower secondary teachers in New Zealand are equivalent to 88% of the average earnings of all full-time, full-year workers with a tertiary qualification in New Zealand (Figure 15), the same as the OECD average. We are ranked 16th in the OECD in terms of the earnings of our teachers compared to similarly-educated workers.

On average, salaries for our principals are higher than the average earnings of full-time, full-year workers with a diploma-level and above education in New Zealand (Figure 15). The ratio of upper secondary principals' salaries to the salaries of full-time, full-year diploma-level and above educated workers was 1.5 in 2017, meaning that principals earned 50% more than the average full-time, full-year diploma-level and above educated worker. This is above the OECD average ratio of 1.43 for the salaries of upper secondary school heads to the salaries of full-time, full-year diploma-level and above educated workers.

The ratio for upper secondary teachers' salaries compared to the salaries of full-time, full-year diploma-level and above educated workers in New Zealand was 0.95, meaning that our teachers earn slightly less than the average full-time, full-year diploma-level and above educated worker in New Zealand (Figure 15). This is above the OECD average ratio of upper secondary teacher salaries to the salaries of full-time, full-year diploma-level and above educated workers (0.93).

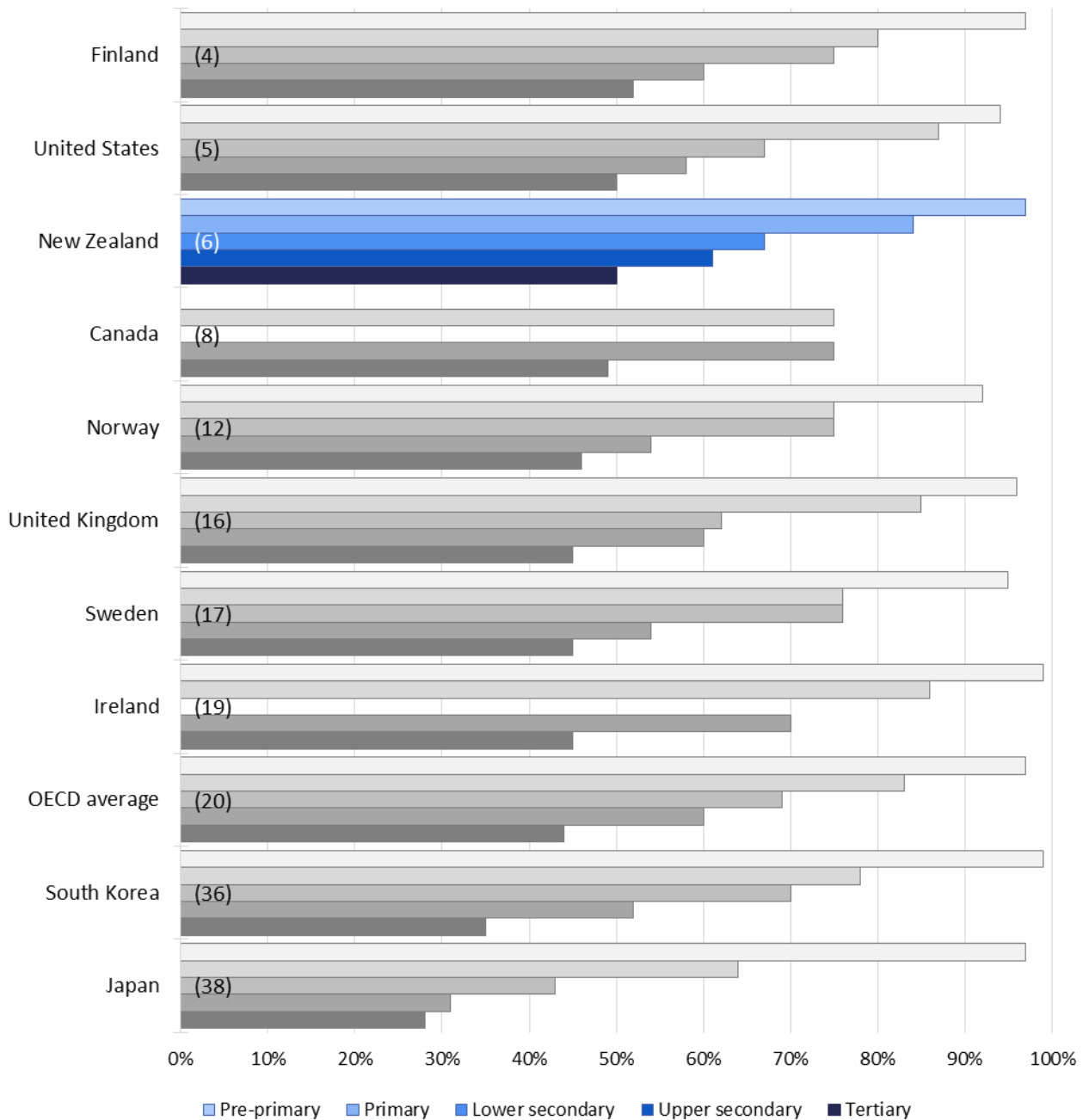
Figure 15 On average, principals in New Zealand earned more other than diploma-level and above educated workers in New Zealand in 2017



Upper secondary teachers' and school heads' salaries relative to earnings for diploma-level and above educated workers (2017). Countries and economies are ranked (in brackets) in descending order of the ratio of teachers' salaries to earnings for full-time, full-year diploma-level and above workers aged 25-64.

Overall, 72% of New Zealand's teaching staff are female across the entire education sector (from early childhood education to tertiary education, Figure 16). As in most countries, the proportion of our teaching staff that are female decreases as the level of educational institution increases. Women accounted for 97% of teachers at pre-primary institutions in 2017, 84% of teachers at primary schools, 67% at lower secondary schools, 61% at upper secondary schools, and 50% at tertiary institutions. We are in line with the OECD average for all levels of education apart from tertiary education, where we exceed the OECD average of 44% female staff at tertiary institutions in 2017.

Figure 16 New Zealand ranks 6th based on the percentage of our female teachers at tertiary institutions



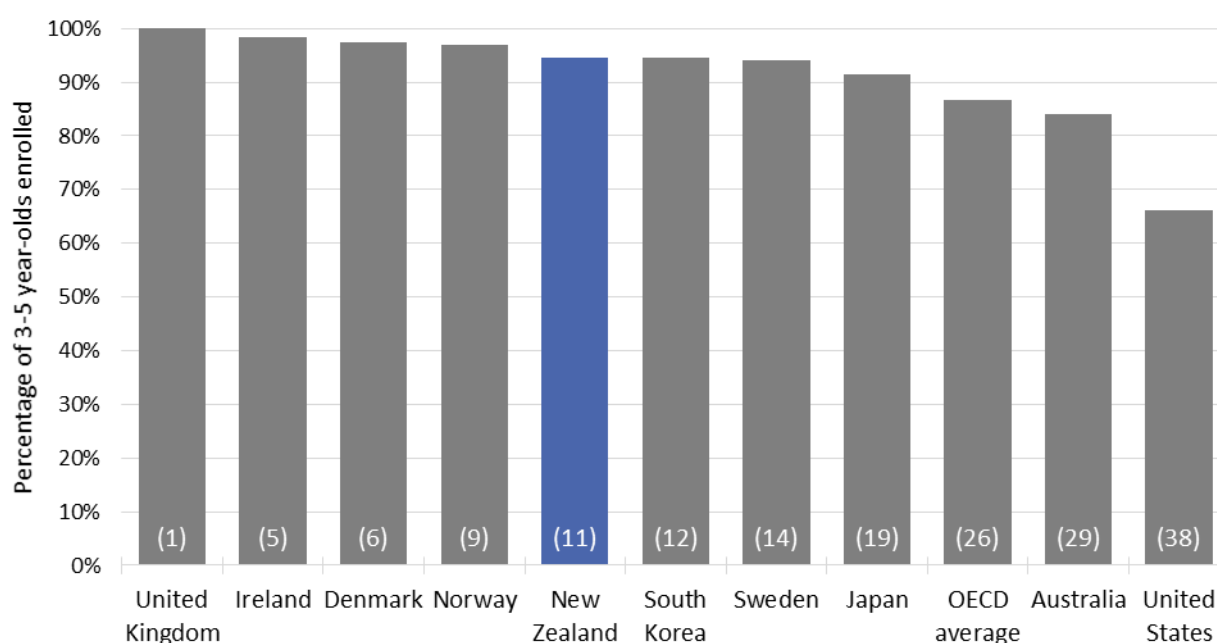
Percentage of female teachers in public and private institutions by level of education, based on head counts (2017). Countries are ranked (in brackets) in descending order of the percentage of female teachers at tertiary institutions.

Early Childhood Education

Early childhood education has a range of forms in New Zealand, and our participation and expenditure rates are well above OECD averages. Older children are more likely to be enrolled than younger children, and our teacher-child ratios are among the lowest in the OECD.

For most people, their education begins in early childhood. This is very common in New Zealand, where we have high levels of enrolment in early childhood education compared to other OECD countries (Figure 17).⁸ New Zealand is ranked 11th within the OECD for the rate of children aged 3-5 years-old enrolled in either early childhood or primary education, and we are well above the OECD average of 87%.

Figure 17 Over 95% of children aged 3-5 years-old are enrolled in early childhood or primary education in New Zealand

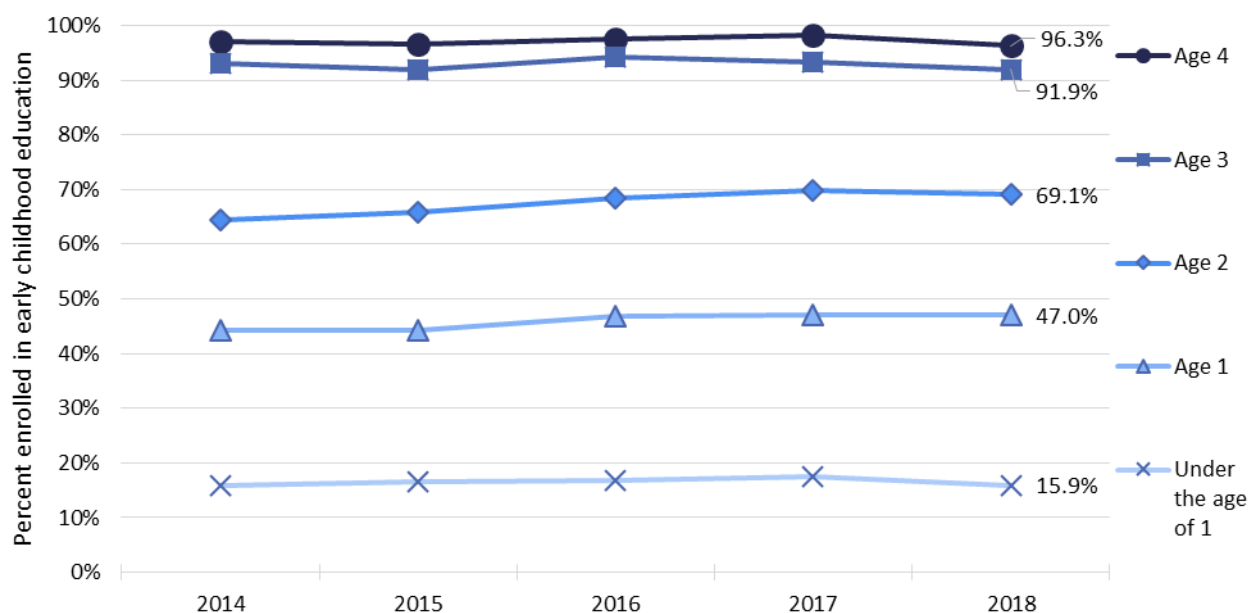


Early childhood education (ISCED 0) and primary education enrolment rates of children aged 3 to 5 years (2017). Countries are ranked (in brackets) in descending order of the enrolment rates of 3-5 year-olds.

In New Zealand, as in other OECD countries, the proportion of children enrolled in early childhood education increases as children age. In 2018, 15.9% of New Zealand children under the age of 1 were enrolled in early childhood education compared to 96.3% of four year olds (Figure 18).

⁸ In the New Zealand context, 'enrolments' is combination of attendances during the 2017 ECE Census week as captured in our Early Learning Information (ELI) system, as well as enrolments collected from services that do not use ELI. There is no information on the length of time per day/week that a child spends at early childhood education within the *Education at a Glance* indicators.

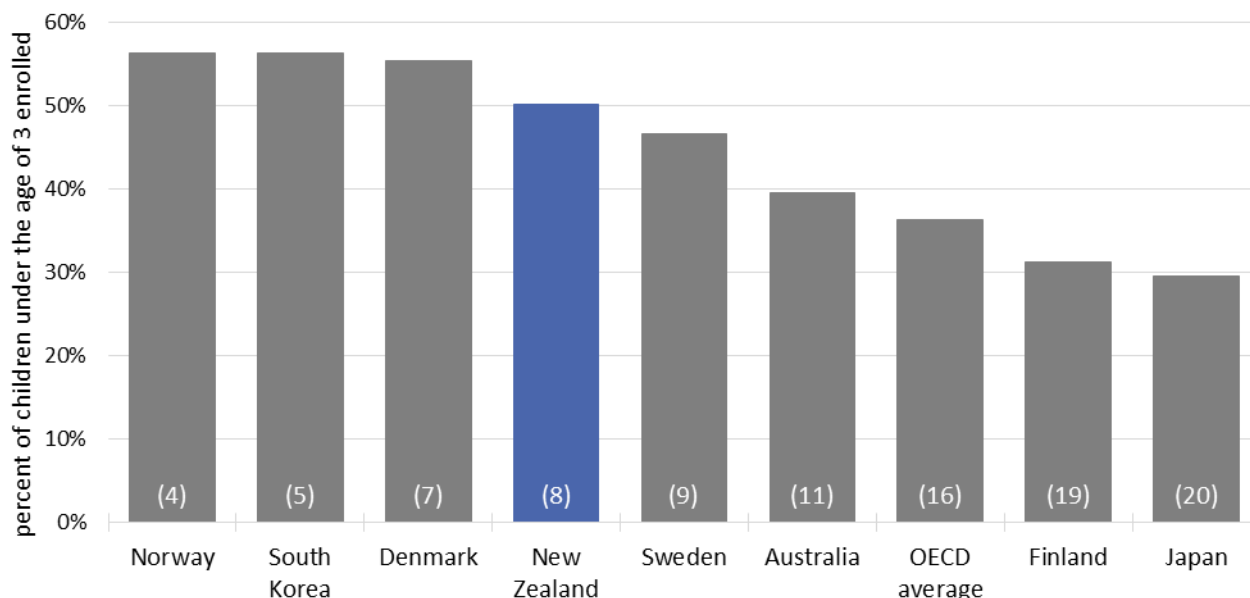
Figure 18 In 2018, 96.3% of four year olds in New Zealand were enrolled in early childhood education



Ministry of Education, *Enrolments in ECE*.

Although a lower percentage of New Zealand's very young children are enrolled in early childhood education compared to older years within New Zealand (Figure 18), New Zealand ranks 8th amongst OECD countries for the percentage of children under the age of 3 who are enrolled in early childhood education (Figure 19). In New Zealand, 50% of our children under the age of 3 are enrolled in early childhood education, higher than the OECD average of 36%.

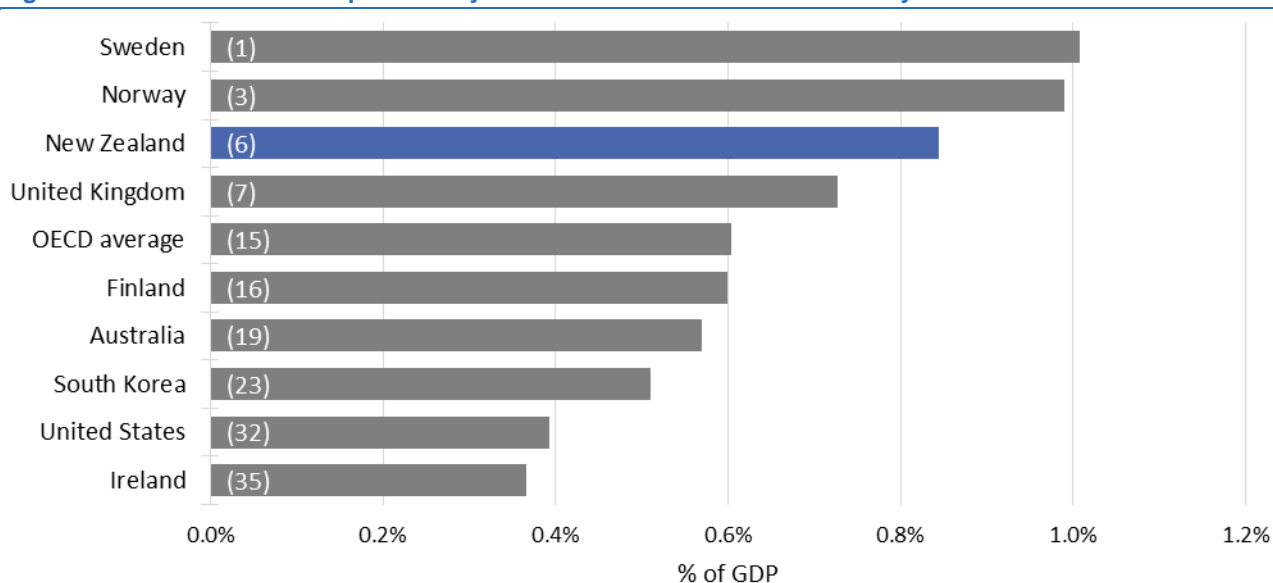
Figure 19 50% of children under the age of 3 in New Zealand are enrolled in early childhood education



Enrolment rates of children under the age of 3 in early childhood education and care, by age (2017). Countries are ranked (in brackets) in descending order of the enrolment rates in ISCED 0 of children under the age of 3.

New Zealand ranks 6th amongst OECD countries in terms of expenditure on education for our 3-5 year olds as a percentage of GDP (Figure 20), at either early childhood institutions or primary schools.

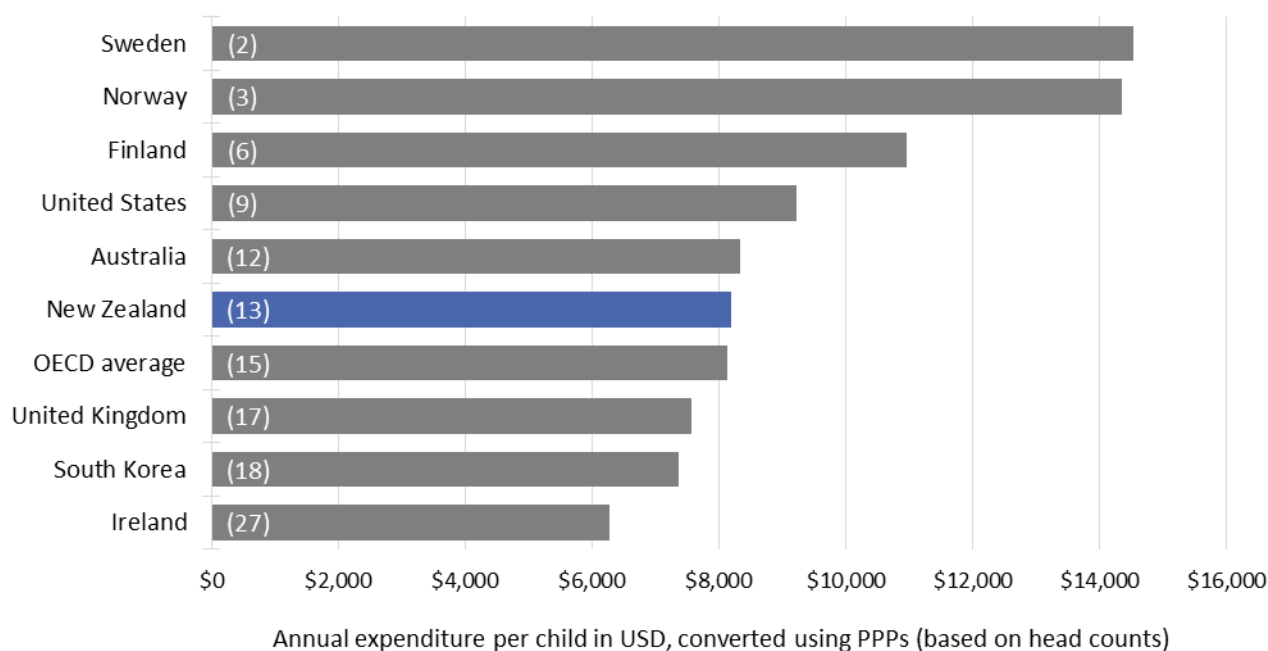
Figure 20 In New Zealand we spend nearly 1% of our GDP on education for 3-5 year olds



Estimated expenditure on all children aged 3 to 5 enrolled in early childhood education and care (ISCED 0) and primary education as a percentage of GDP (2016). Countries are ranked (in brackets) in descending order of expenditure as a percentage of GDP.

Based on the total number of children aged 3-5 enrolled in either early childhood or primary education in New Zealand, we spend on average US\$8,191 per year on each child enrolled in education.⁹ This is slightly higher than the OECD average of \$8,141 per year (Figure 21). We are ranked 13th in terms of dollar figures (Figure 21) compared to our rank of 6th in terms of GDP (Figure 20).

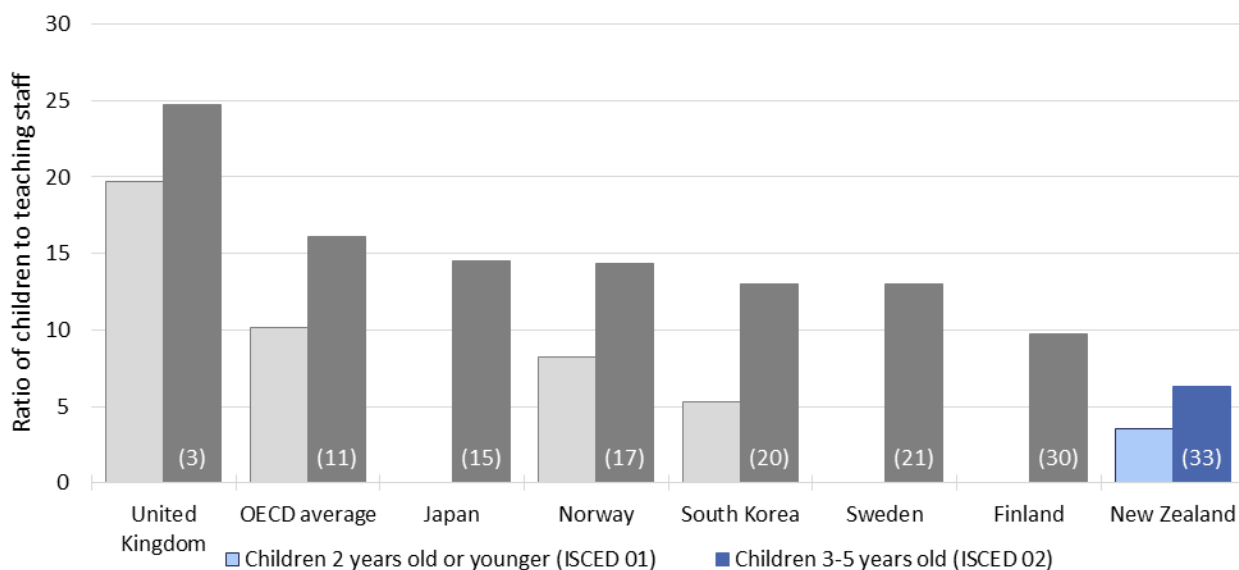
Figure 21 New Zealand spends over \$8,000 per child in early childhood education



Expenditure on all children aged 3 to 5 enrolled in ECEC and primary education (based on head counts, 2016). Countries are ranked (in brackets) in descending order of expenditure in USD converted using PPPs.

⁹ The Ministry of Social Development's funding of childcare assistance is included within public early childhood education expenditure.

Figure 22 New Zealand has low ratios of children to teaching staff in early childhood education on a full-time equivalent basis



Ratio of children to teaching staff in early childhood education and care (2017). Countries are ranked (in brackets) in descending order of the ratio of children to teaching staff in pre-primary education (ISCED 02).

While measuring things like expenditure on early childhood education between different countries is relatively simple, there is a vast amount of variability amongst early childhood/pre-school education systems around the world. There is variability in who is enrolled in education at the early ages (for example, Mexico's starting age of compulsory education is age 3, but Sweden's is age 7). Differences in parental leave policies also play a big part in early childhood enrolment rates – countries that have more generous parental leave policies tend to have low enrolment rates for very young children, and then a sudden increase to high enrolment rates for the later ages.

Then there are the differences in early childhood education staff – while all countries have teaching staff at early childhood education, countries differ in the qualification levels they require of their teaching staff. In New Zealand, the term 'teaching staff' covers both qualified and unqualified teachers, while other countries may require specific qualification levels to be defined as an early childhood 'teacher'.

Moreover, some countries rely heavily on teachers' aides. For example, Figure 22 above shows that the United Kingdom has a ratio of 20 children to teachers for children aged 2 years or younger, and a ratio of 25 children to teachers for children aged 3 to 5. Once teachers' aides are included, these ratios drop sharply – for children aged 2 years or younger, the ratio of children to contact staff (teachers and teachers' aides) is 2 children per contact staff member; the ratio for children aged 3 to 5 is 4 children per contact staff member.

In short, calculating measures such as child to staff ratios for early childhood education is really complicated when done on an international scale, and caution should be used when comparing early childhood ratios between countries. For Education at a Glance, the OECD calculates these ratios on a full-time equivalent basis in terms of the total number of children and adults involved in early childhood education, which is different from the headcounts-at-the-busiest-time measure we calculate in New Zealand.¹⁰

In the New Zealand context, these ratios cover children and teaching staff from all licensed, teacher-led services (except hospital and casual care; for home-based services only coordinators are considered teaching staff). Children and staff at ngā kōhanga reo and playcentres have been excluded from these ratios as the Ministry of Education does not classify these as teacher-led services.

¹⁰ For the purposes of reporting this data for OECD's Education at a Glance, the full-time equivalency for a New Zealand child is 30 hours of attendance per week, and for a teacher it is 25 hours per week.

For children aged 3 to 5 years old in early childhood education and care, the OECD calculates that New Zealand has six children to each teaching staff member.¹¹ This is well below the OECD average of 16 children per teaching staff member for children aged 3 to 5. New Zealand also has the lowest child to teaching staff ratio amongst OECD countries for younger children, with a child to teaching staff ratio of 4 children per teaching staff member for children aged 2 or younger in education and care, when calculated on a full-time basis. This ratio is below the OECD average (10 children aged 2 or younger per teaching staff member).

Please note that for both age ranges, these ratios do not take into account the actual numbers of staff needed on a daily basis to cover staff breaks, planning sessions, etc. The OECD's ratios are highly aggregated measures based on total numbers of children and teachers present during the Annual Early Childhood Education Census week, rather than the specific number of teachers 'on the floor' at any given time at an early childhood education service. Please use these figures with caution when discussing the New Zealand early childhood education system.

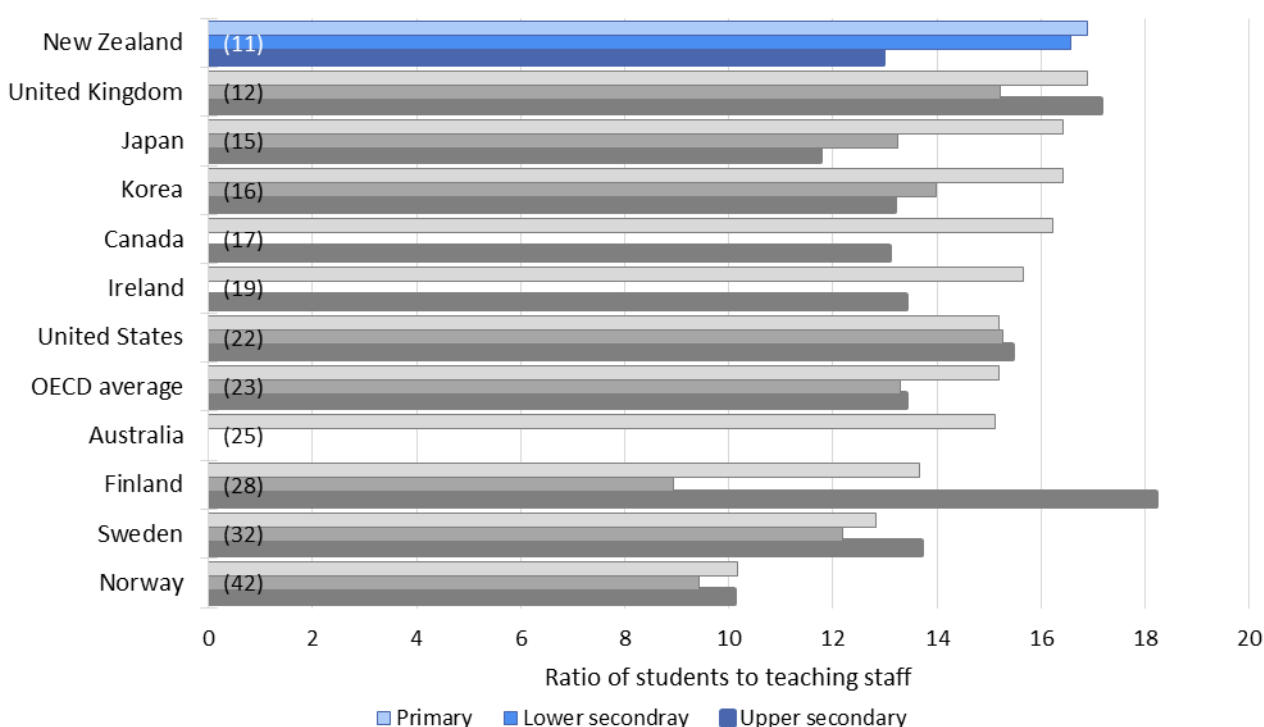
¹¹ The print editions of the OECD's *Education at a Glance 2019* incorrectly classified New Zealand's data as "Children to contact staff (teachers and teachers' aides)" rather than "Children to teaching staff", which is the data we reported. This error has been added to the corrigendum to *Education at a Glance 2019*, corrected in the web tables and in the data on the OECD.stat website.

Schooling

New Zealand's percentage of school leavers with NCEA Level 2 or above has increased since 2013, and the majority of our school leavers enter further study with no break in their education.

New Zealand has a relatively high ratio of students to teaching staff in primary and lower secondary schools (Figure 23). New Zealand has a ratio of 17 students per member of teaching staff at primary schools, ranking us 11th amongst OECD. This is a similar ratio to the United Kingdom, and above the OECD average of 15 students per teaching staff member in primary schools. At upper secondary schools in New Zealand there are 13 students per teaching staff, the same as the OECD average for upper secondary schools.

Figure 23 New Zealand has the same student-teacher ratios at upper secondary schools as the OECD average



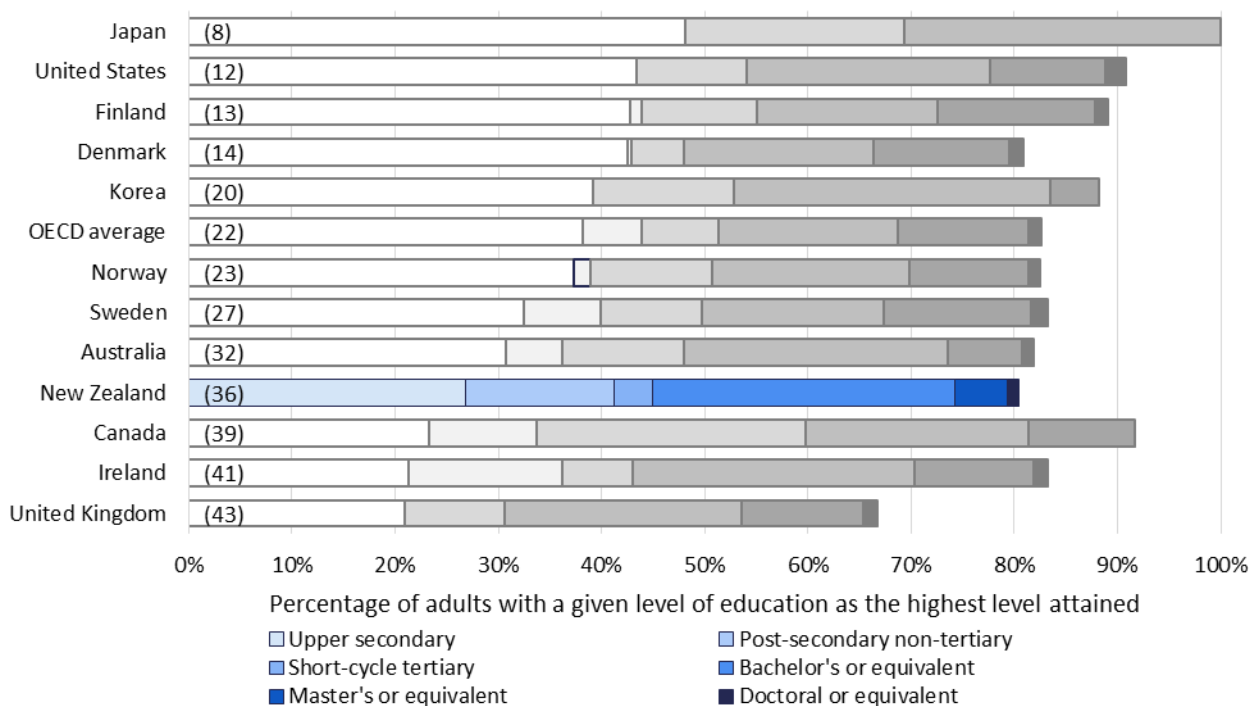
Ratio of students to teaching staff in educational institutions, by level of education (2017). Calculations based on full-time equivalents. Countries are ranked (in brackets) in descending order of number of primary students to teaching staff.

Education at a Glance 2019 frequently refers to “upper secondary qualifications”, as seen in Figure 24 below. In the New Zealand context, a person has an upper secondary qualification if they have achieved a Level 2 certificate or an equivalent level qualification (a ‘below upper secondary’ qualification is a Level 1 certificate or equivalent, or below). These qualifications can be gained either through any form of education institution, not just secondary schools.

Overall, 80% of New Zealand’s adult population has qualification equal to or above a Level 2 or equivalent qualification, slightly below the OECD average of 83%. Just over a quarter of New Zealand adults have a Level 2 or equivalent qualification as their highest qualification, below the OECD average of 38%. This ranks New Zealand 36th within OECD countries in terms of the percentage of our adult population who has a Level 2 or equivalent qualification as their highest qualification (Figure 24).

The percentage of New Zealand adults who have at least a Level 4 qualification (our “post-secondary non-tertiary” qualification) or higher is 55%, well above the OECD average of 44% (Figure 24). Over 35% of New Zealand adults have a bachelor’s or equivalent as their highest qualification attained, above the OECD average of 31% of the adult population.

Figure 24 Over 80% of New Zealand adults have attained at least a Level 2 or equivalent qualification, or above¹²

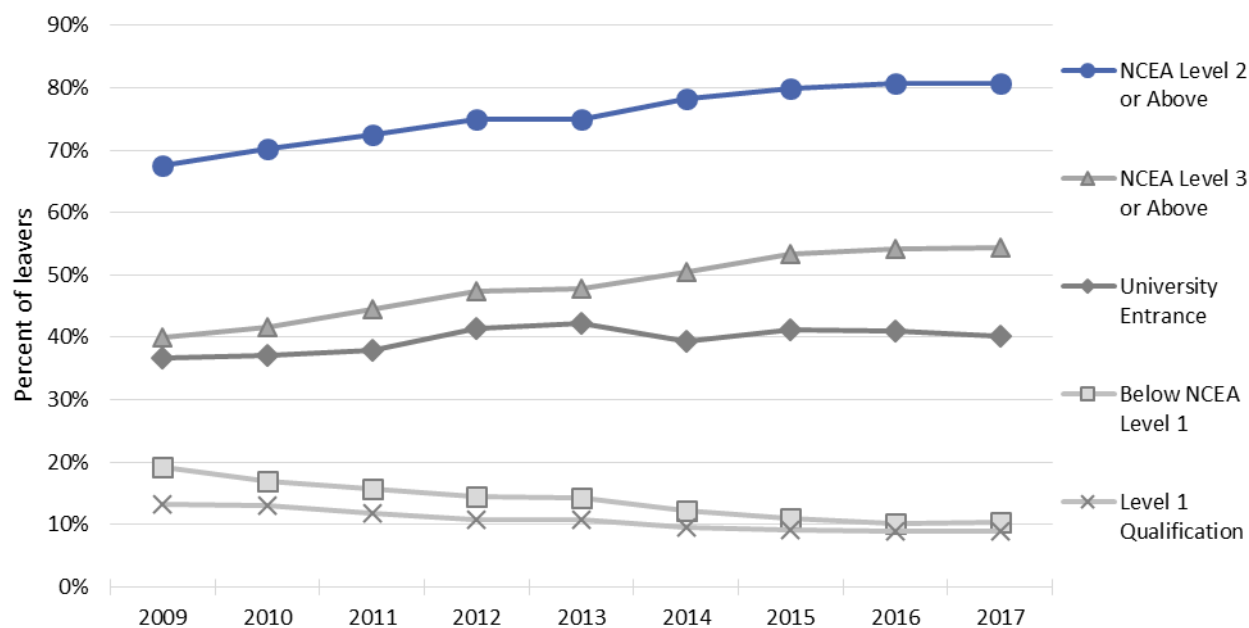


Percentage of adults (aged 25-64 years old) with a given level of education as the highest level attained (2018). Countries are ranked (in brackets) in descending order of the percentage of adults with upper secondary qualifications as the highest qualification attained.

The percentage of New Zealand school leavers who have attained a Level 2 or above (or equivalent) qualification has increased in recent years, from 68% of leavers in 2009 to 81% in 2017 (Figure 25), which reflects our overall Level 2 qualification rates in Figure 24. The percentages of those who leave school with below a Level 2 qualification have decreased over the same period – those who have leave school with a qualification below Level 1 or equivalent has decreased from 19% in 2009 to 10% in 2017; those with a Level 1 or equivalent qualification has decreased from 13% to 9%.

¹² A Level 4 Certificate is the New Zealand equivalent of a “post-secondary non-tertiary” qualification.

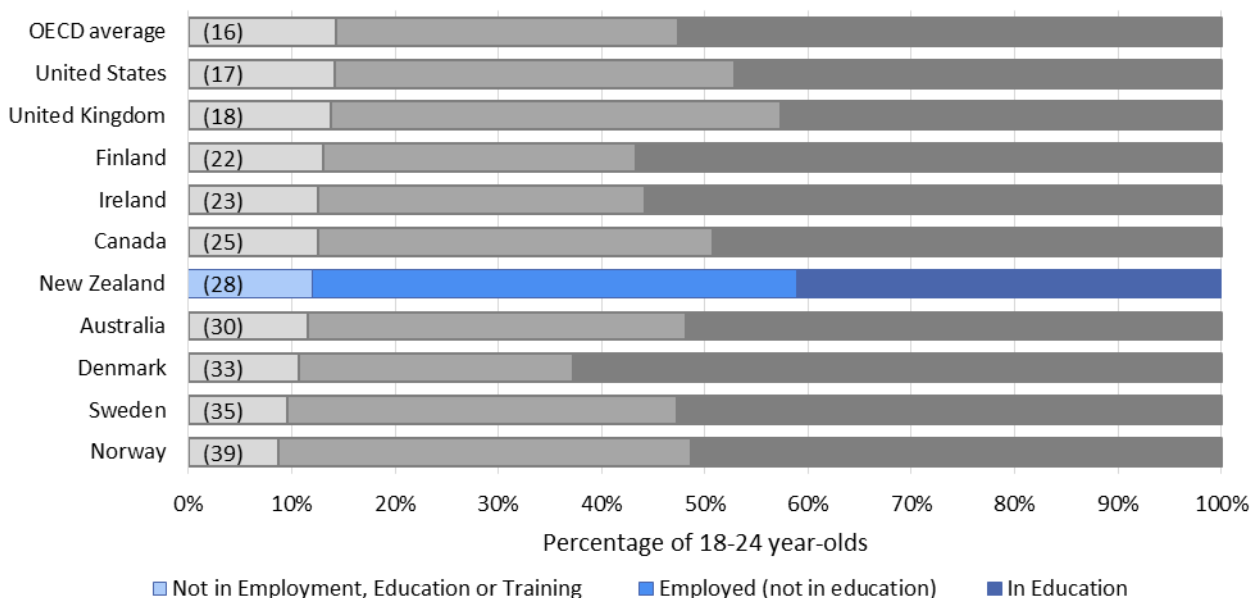
Figure 25 The percentage of school leavers with NCEA Level 2 or above has increased since 2013



Ministry of Education, *School Leavers 2017*.

The percentage of school leavers gaining a Level 3 or above qualification has increased from 40% in 2009 to 54% in 2017 (Figure 25). The percentage attaining University Entrance has also increased (from 37% in 2009 to 40% in 2017), although there was a decrease between 2013 and 2014 in the percentage of school leavers who gained University Entrance due to a change in the requirements to meet University Entrance.

Figure 26 New Zealand's Not in Employment, Education or Training (NEET) rate for 18-24 year-olds is below the OECD average



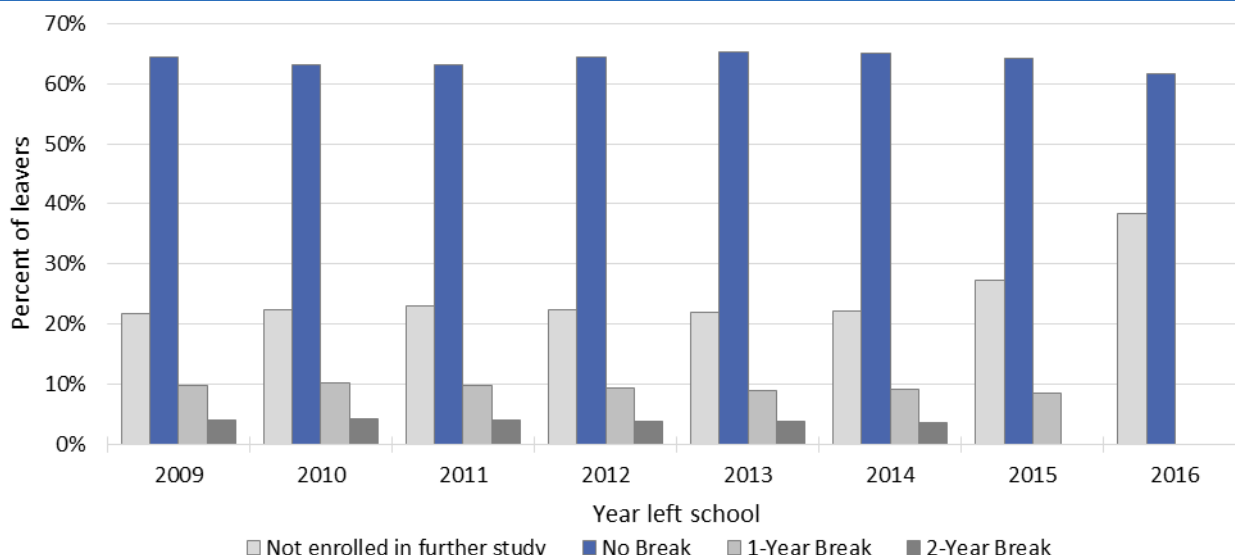
Percentage of 18-24 year-olds in education/not in education, by work status (2018). Countries are ranked (in brackets) in descending order of the percentage of 18-24 year-olds Not in Employment, Education or Training.

New Zealand has a relatively low percentage of 18-24 year olds engaged in education compared to other OECD countries (Figure 26), with many of our young people employed instead. Our Not in Employment, Education or Training (NEET) rate for 18-24 year-olds was 12% in 2018, below the OECD average of 14%.

Transitioning from school to further education

The increased percentage of school leavers gaining higher qualifications is reflected in increases in the proportions of leavers who transition to further education after leaving school. Over 60% of New Zealand's school leavers are enrolled in further study the year after they leave school, transitioning from secondary to further education without a break (Figure 27). A further 9-10% of school leavers will enrol in further education with a one year break after leaving school, with another 4% entering further study after a 2 year break.

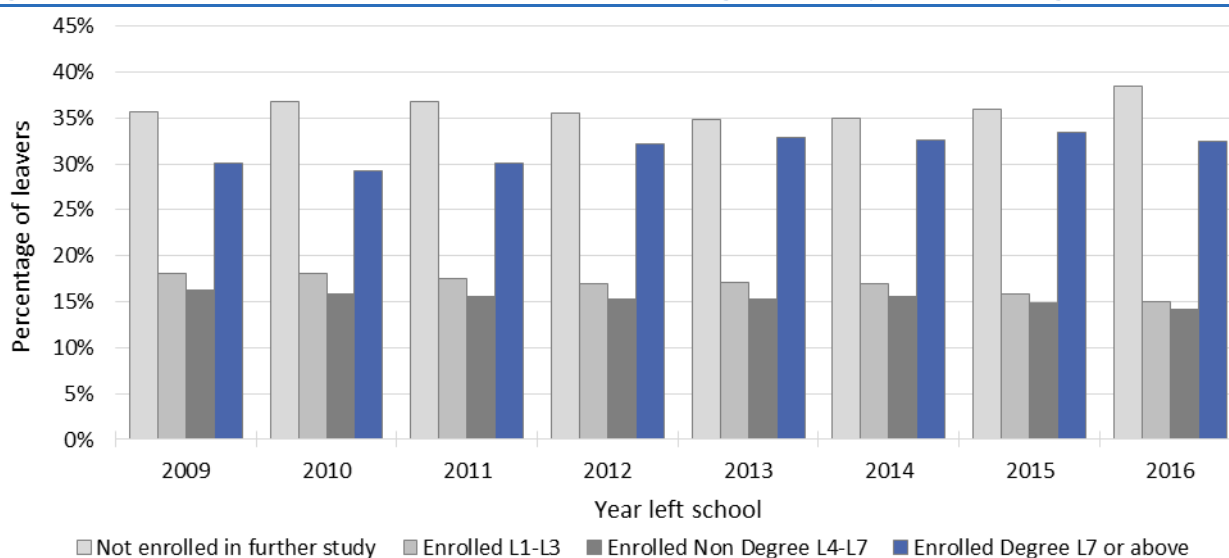
Figure 27 The majority of school leavers immediately attend further study with no break in their education



Ministry of Education, *School Leavers 2017*.

In terms of the type of further education enrolled in, the most common qualification types for school leavers to enrol in is a bachelor's programme – what we term “enrolled degree level 7 or above” (Figure 28). Of those who left school in 2016, 32% were enrolled in a bachelor's programme in the next year, with a further 14% enrolled in Level 4 to 7 non-degree programmes such as certificates or diplomas and another 15% enrolled in Level 1 to 3 certificates (equivalent to NCEA but offered outside of schools).

Figure 28 A third of school leavers are enrolled in bachelor's programme one year after leaving school



Ministry of Education, *School Leavers 2017*.

Tertiary Education

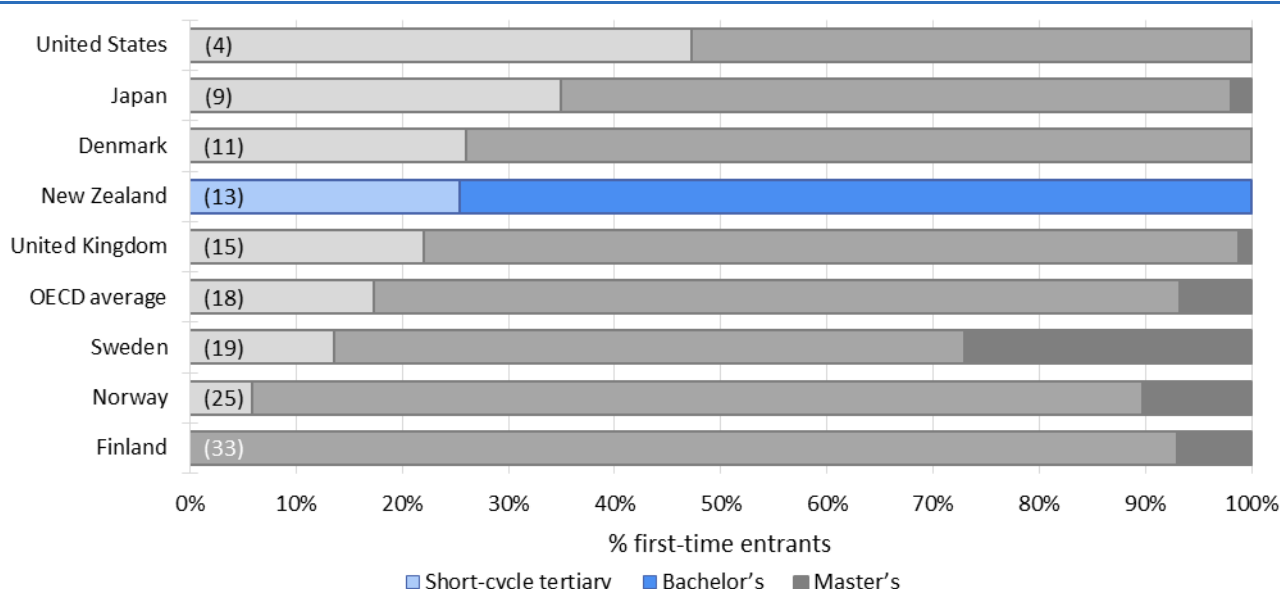
New Zealand has a system that facilitates participation by adults in education, through flexible part-time or course-based study options. Short post-bachelor's courses are more common in New Zealand than master's study, which is rare among the OECD.

Compared to other OECD countries, New Zealand has an above-average proportion of the population with a bachelor's degree. International students are a key part of the New Zealand economy, and account for 20% of all diploma-level and above students, well above the OECD average of 6%. International students account for 50% of doctoral candidates in New Zealand, more than double the OECD average of 22%.

Tertiary education is the major focus of *Education at a Glance 2019*, and is used in *Education at a Glance* to refer to everything from diploma-level qualifications to doctorates. This is different to how the term 'tertiary education' is used in New Zealand, where it can any level of education that is provided in a post-school environment. Hence, care is needed when interpreting 'tertiary education' results from *Education at a Glance*. To avoid confusion, we've referred to these results as 'diploma-level and above' throughout this section.

The majority of first-time entrants to diploma-level and above study in New Zealand enrol in bachelor's degrees (Figure 29). Only a quarter of our first-time entrants to diploma-level and above study enrol in "short-cycle" tertiary – the OECD's term for the diplomas or advanced certificates offered in New Zealand. The popularity of enrolling in bachelor's degrees for first-time entrants to diploma-level and above study ranks New Zealand 13th within the OECD.

Figure 29 Three quarters of first-time entrants to diploma-level and above study in New Zealand enter bachelor's degrees

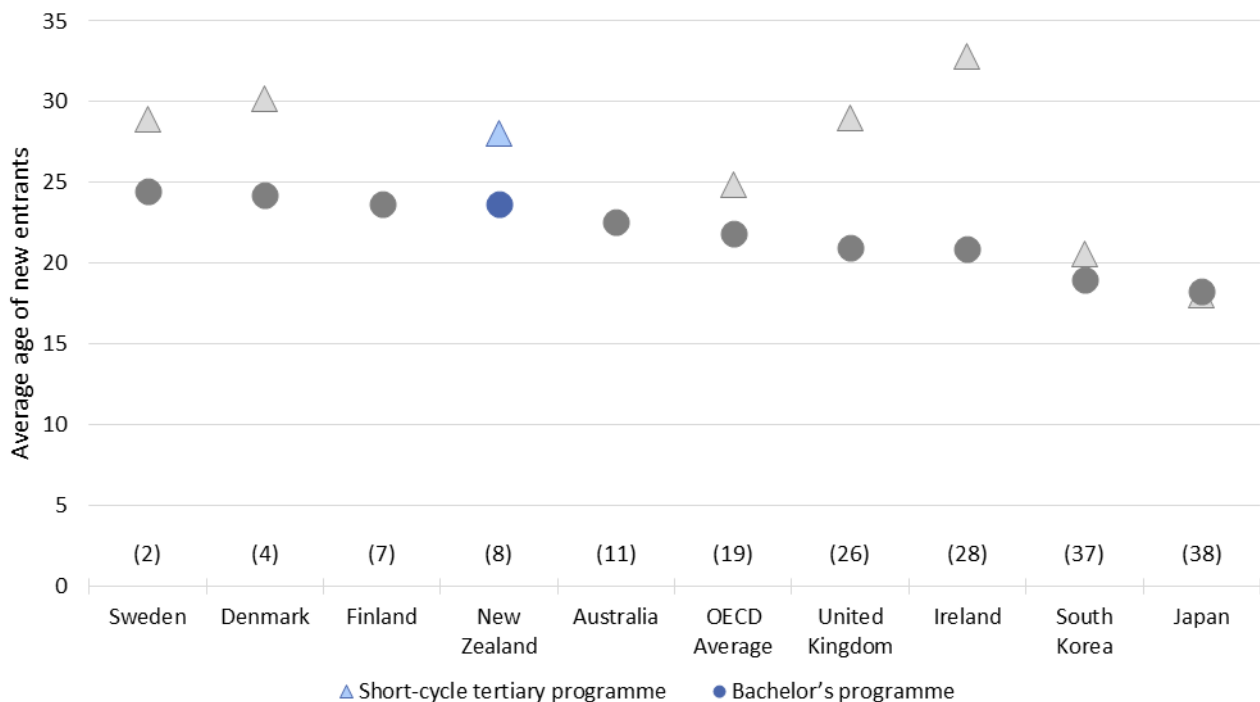


Distribution of first-time entrants into diploma-level and above education, by level of education (2017). Countries are ranked (in brackets) in descending order of the percentage of first-time entrants into short-cycle tertiary programmes in 2017.

The average age of new entrants to bachelor's programmes in New Zealand is 24 years compared to the OECD average of 22 years (Figure 30), ranking New Zealand 8th within OECD countries in terms of average age of new entrants to bachelor's programmes. This reflects not only the fact that our recent school leavers will enrol in further education after taking a break from education, but also that New Zealand has a system that facilitates participation by adults in education, through flexible part-time or course-based study options.

In most OECD countries the average age of new entrants to short-cycle tertiary study is higher than that of new entrants to bachelor's programmes, and New Zealand is no exception to this. The average age of new entrants to short-cycle tertiary programmes in New Zealand is 28 years, and for the OECD the average age is 25 for new entrants to short-cycle tertiary programmes (Figure 30).

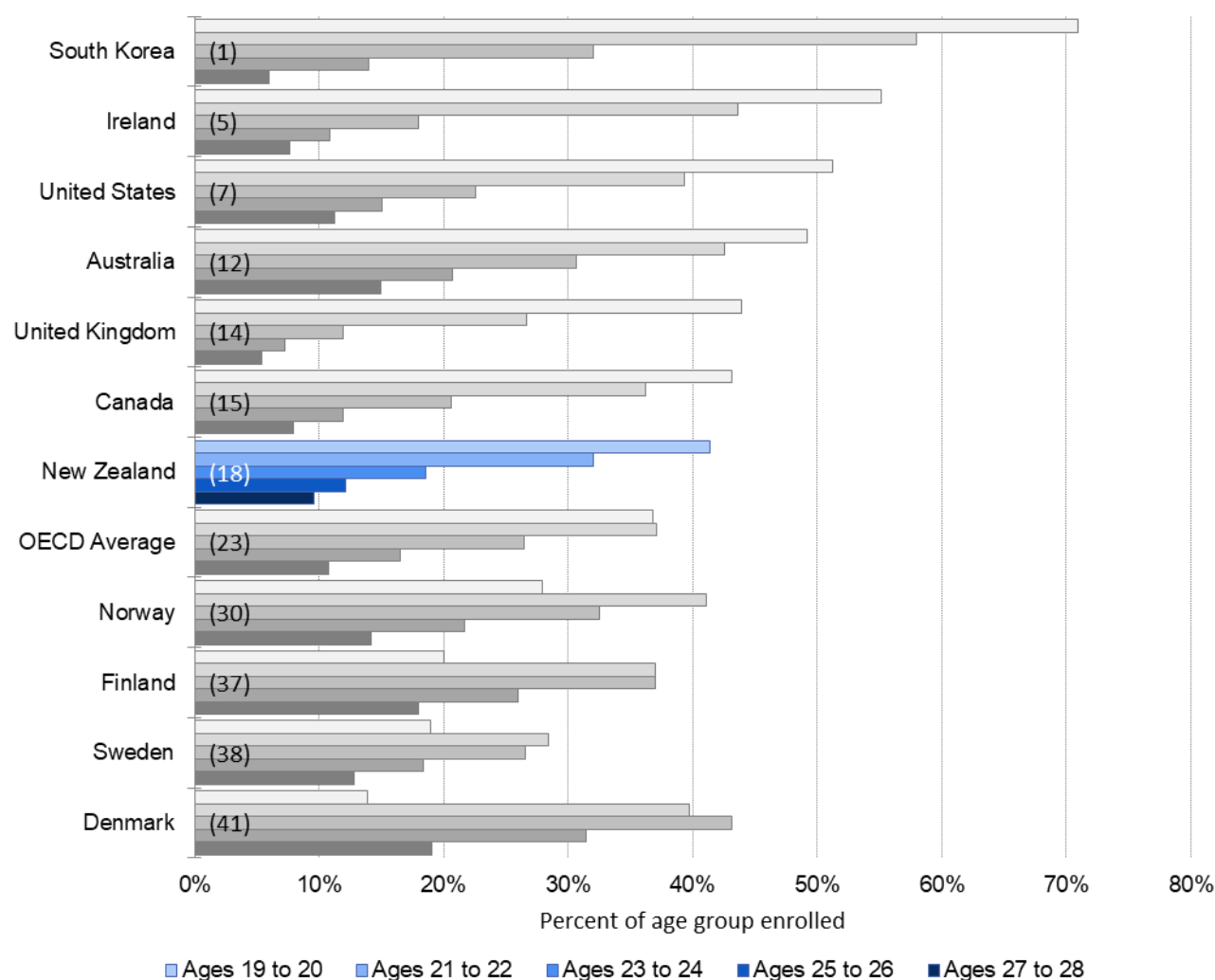
Figure 30 The average age of new entrants to bachelor's programmes in New Zealand is 24 years old



Average age of new entrants by level of education (2017). Countries are ranked (in brackets) in descending order of the average age for first-time entrants into bachelor's programmes in 2017.

Participation in diploma-level and above education can occur at any age, as opposed to something that just occurs during ones early twenties. New Zealand has a higher proportion of older adults that undertake diploma-level and above education compared to other countries. This is reflected not only in the relatively high average ages of new entrants to diploma-level and above study (Figure 30), but also in the relatively high percentage of New Zealanders in their late twenties who are enrolled in diploma-level and above education (Figure 31).

Figure 31 Over 40% of New Zealanders aged 19-20 are enrolled in diploma-level and above education, as are 10% of those aged 27-28



Diploma-level and above enrolment rates from age 19 to age 28 (2017). Countries are ranked (in brackets) in descending order of enrolment rates at ages 19 to 20.

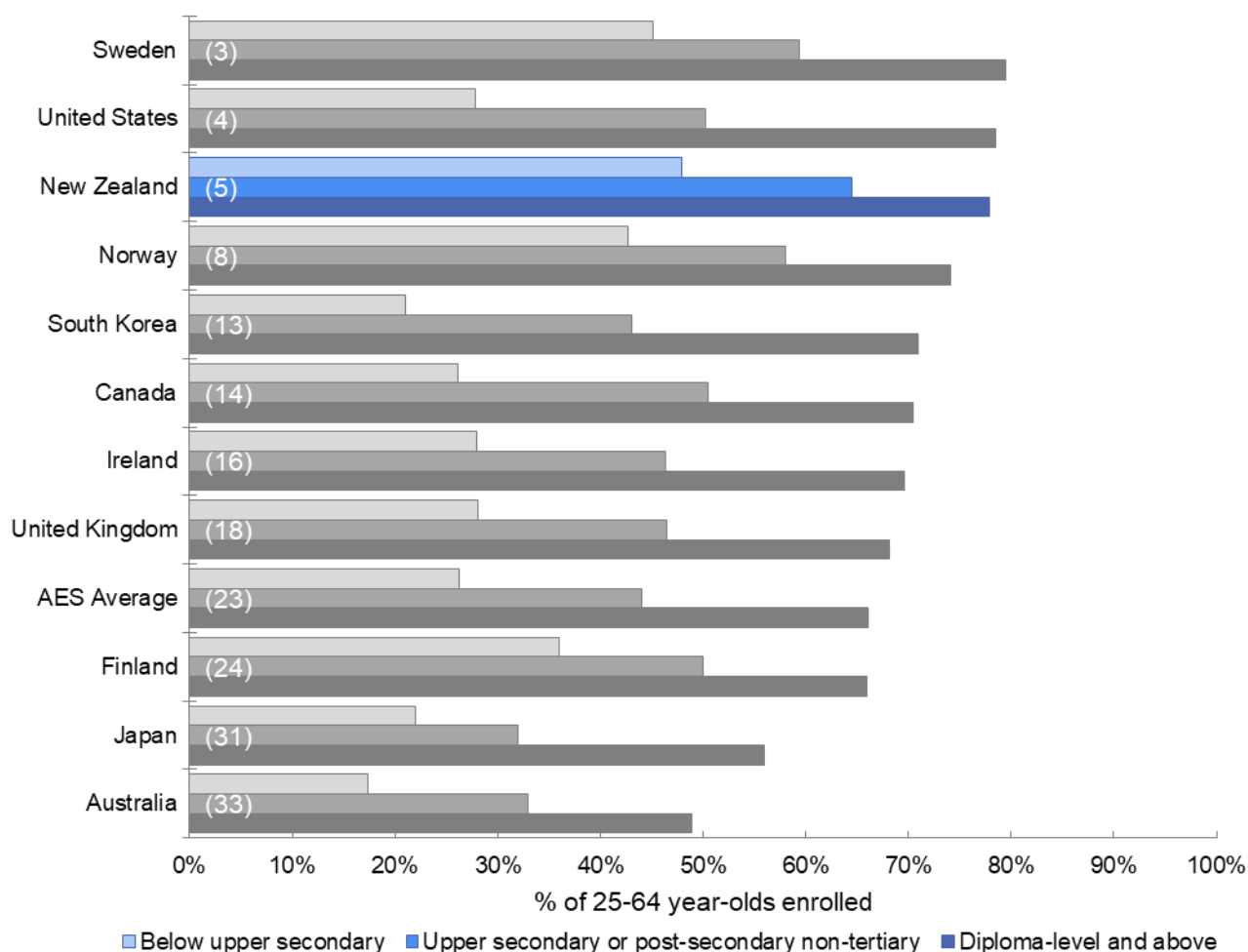
If we widen the scope to both formal and non-formal¹³ education and training, and look at the entire adult population aged 25-64 years old, New Zealand ranks highly in terms of the proportion of our adult population who participates in education and training (Figure 32). As with most OECD countries, those with a diploma-level and above education are more likely than others to participate in education and training – 78% of diploma-level and above educated adults in New Zealand were enrolled in formal and/or non-formal education in 2015, compared to 64% of New Zealand adults with an upper secondary or post-secondary non-tertiary education (level 2 to 4 certificates) and 48% of New Zealand adults with below upper secondary education (level 1 certificates or no formal qualifications). Overall, 68% of New Zealand adults participated in formal and/or non-formal education and training in 2015.

The results for New Zealand are from the 2015 Survey of Adult Skills (PIAAC); the average results from the similar 2016 Adult Education Survey (AES) showed that across AES countries, 66% of diploma-level and above educated adults, 44% of upper secondary or post-secondary non-tertiary educated adults and 26% of below upper secondary educated adults were enrolled in formal and/or informal education and training (Figure 32). New Zealand performs above the Adult Education Survey average of 47% of the total adult population participating in formal and/or non-formal education. We are ranked 5th within *Education at a*

¹³ In New Zealand, formal education and training is that which results in a qualification recognised by the New Zealand Qualifications Authority. Non-formal education and training can also result in a qualification – just not one that is recognised by the New Zealand Qualifications Authority.

Glance countries for the percentage of our diploma-level and above educated adults who are participating in formal and/or non-formal education and training.

Figure 32 Nearly 80% of diploma-level and above educated adults in New Zealand participated in formal and/or non-formal education and training in 2015

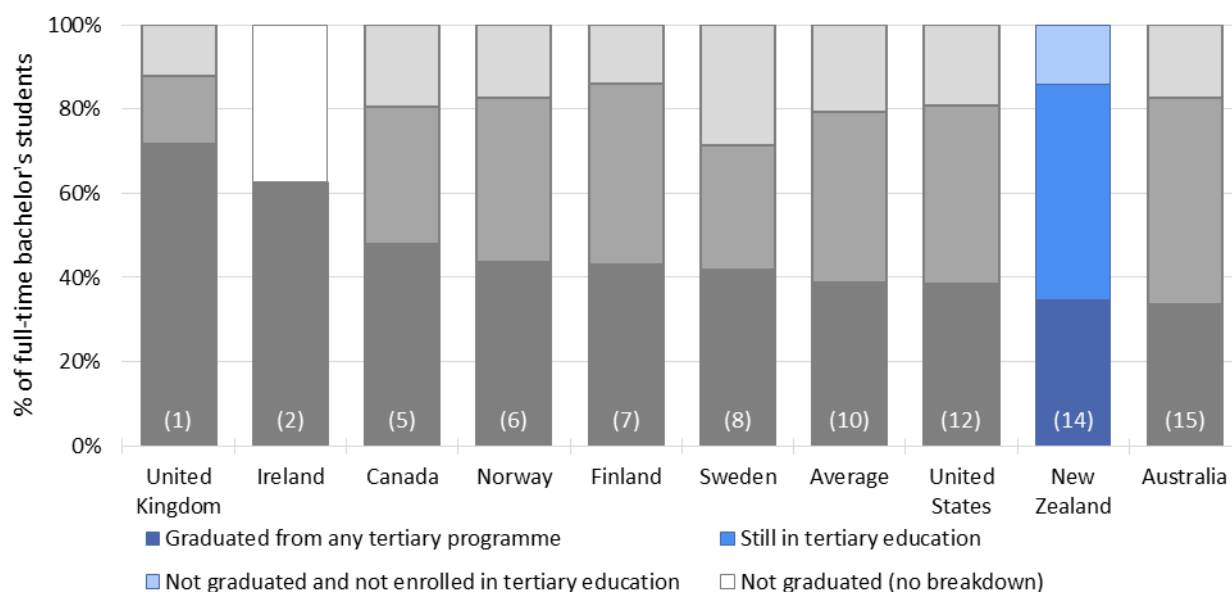


Participation in formal and/or non-formal education and training, by educational attainment (2016). Countries are ranked (in brackets) in descending order of the percentage of diploma-level and above educated 25-64 year-olds participating in formal and/or non-formal education. This figure includes results from Adult Education Survey (AES), the Survey of Adult Skills (PIAAC) and national surveys. Please see the full *Education at a Glance 2019* tables for details.

Enrolling in a bachelor's degree is one of the most popular further education options in New Zealand, and 35% of our full-time bachelor's students complete their degrees within the theoretical duration of a bachelor's degree (which for New Zealand is 3 years). After this theoretical duration, 51% of our full-time bachelor's students are still enrolled in diploma-level and above education, and 14% have not graduated and are not enrolled in diploma-level and above education (Figure 33).¹⁴ On average across the OECD, 39% of full-time bachelor's students graduate by the theoretical duration of their degrees.

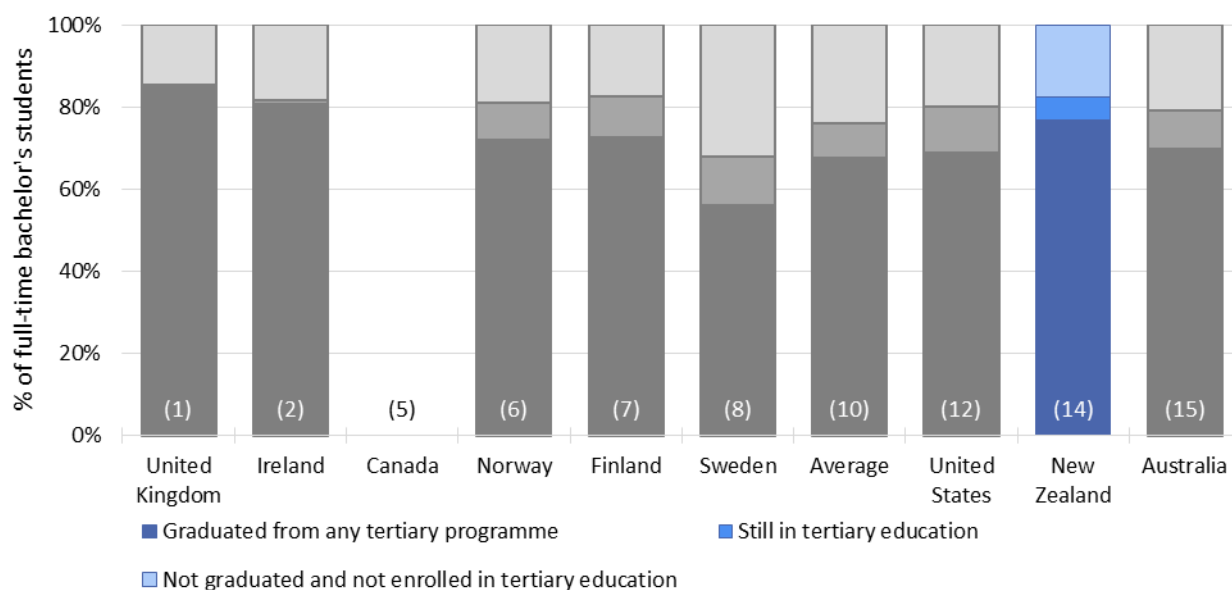
¹⁴ The share of students "not graduated and not enrolled in tertiary education" may include students who left the country before graduation. The share of students who graduated does not include students who transferred and graduated from short-cycle programmes.

Figure 33 New Zealand is ranked 14th in terms of the percentage of our full-time bachelor's students who graduate from their degree by the theoretical duration



Status of full-time bachelor's students by the theoretical duration (2017). Countries are ranked (in brackets) in descending order of the share of students who graduated by the theoretical duration.

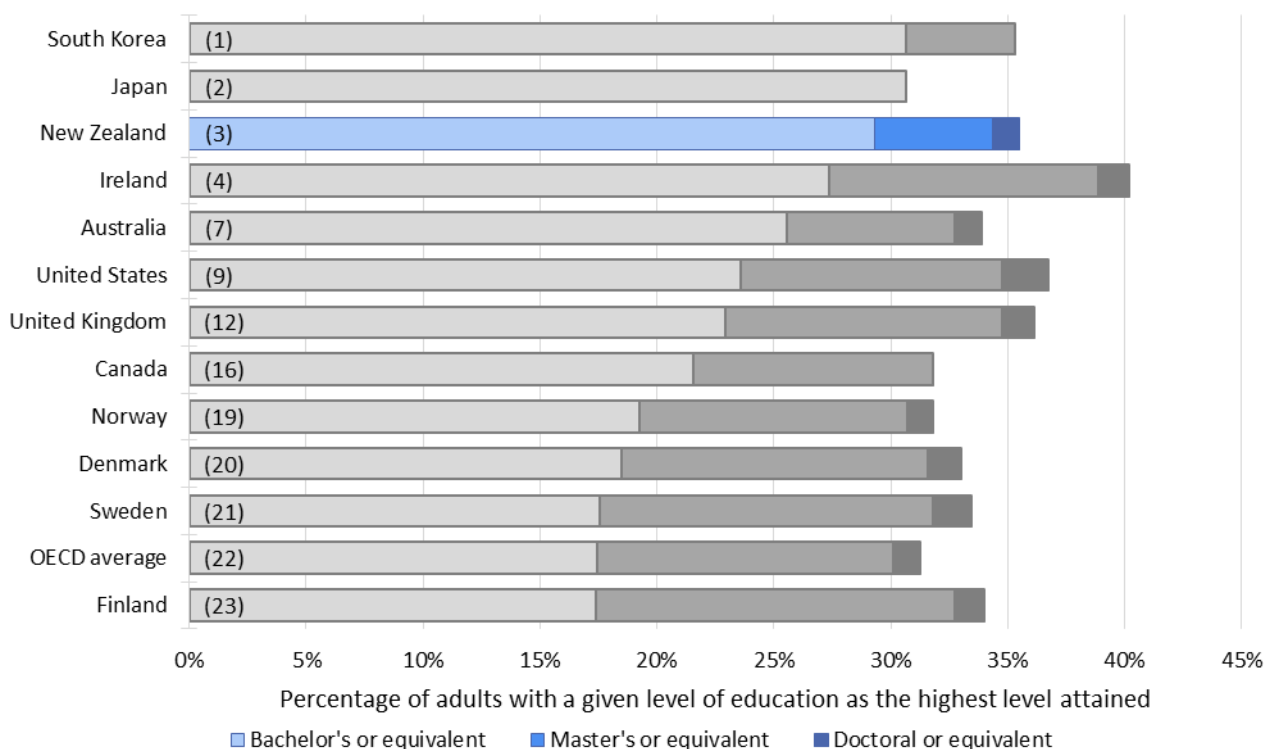
Figure 34 Nearly 80% of New Zealand's full-time bachelor's students graduate from their degree by the theoretical duration plus three years



Status of full-time bachelor's students by the theoretical duration plus three years (2017). Countries are ranked (in brackets) in descending order of the share of students who graduated by the theoretical duration.

Three years after the theoretical duration of their degrees, a much larger percentage of our full-time bachelor's students have completed their degrees (Figure 34). Three years after the theoretical duration of their degrees, 77% of full-time bachelor's students in New Zealand have graduated, with 6% still enrolled in their programme. New Zealand ranks highly in terms of our full-time bachelor's students who complete their studies, it just takes slightly longer on average than in some other OECD countries.

Figure 35 New Zealand is ranked 3rd within OECD countries in terms of the percentage of the population with a bachelor's or equivalent qualification as their highest qualification



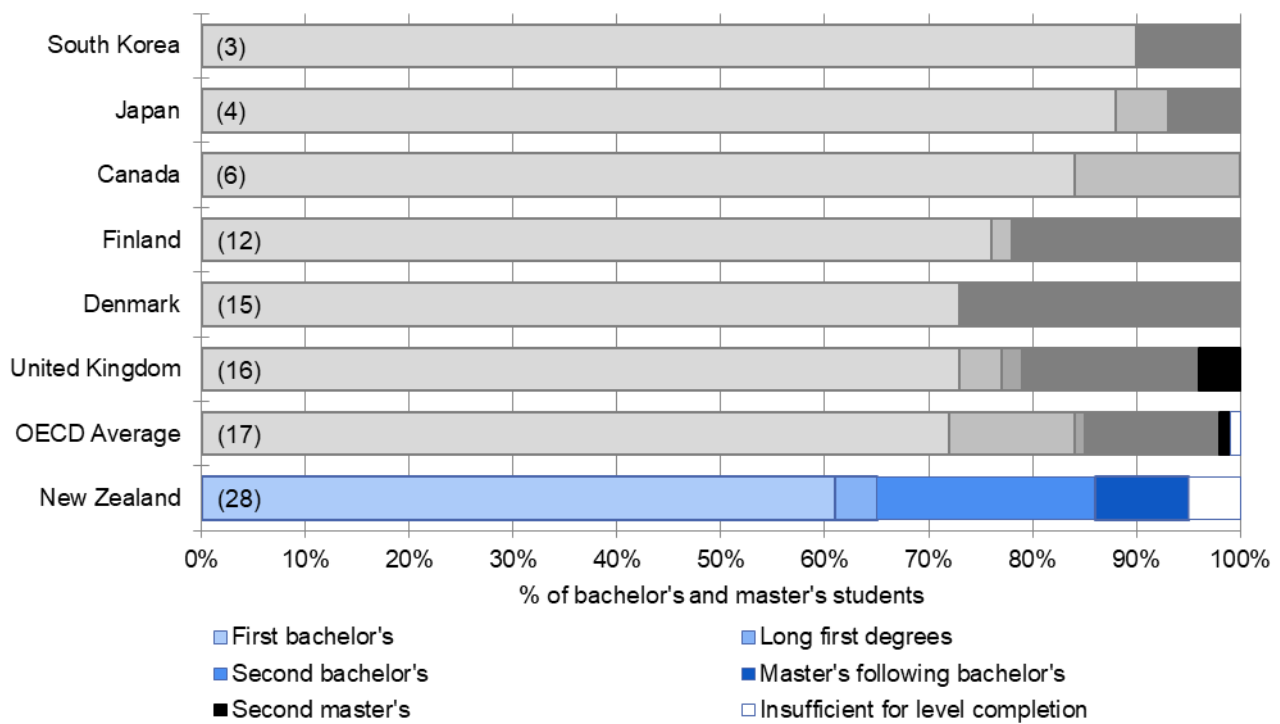
Educational attainment of 25-64 year-olds (2018). Countries are ranked (in brackets) in descending order of the percentage of 25-64 year-olds with bachelor's or equivalent level of education as the highest level attained.

New Zealand ranks 3rd within the OECD in terms of population with a bachelor's or above degree – 36% of the New Zealand population aged 25-64 have a bachelor's or above degree as their highest qualification (Figure 35). This is above the OECD average of 31%, and we rank highly in terms of the percentage of our population that has a bachelor's or equivalent degree as their highest qualification (29%; above the OECD average of 18%). New Zealand ranks slightly below the OECD average for the proportion of the population with a doctorate – 1.14% of our population has a doctorate or equivalent as their highest qualification, compared to the OECD average of 1.15% of the adult population having a doctorate or equivalent.

While 29% of New Zealand adults have a bachelor's degree or equivalent as their highest qualification, only 5% have a master's degree or equivalent (Figure 35). It is much more common for students in New Zealand to enrol in subsequent one-year graduate to postgraduate programme (equivalent to the final year of a bachelor's degree, or to the first year of a master's degree) than a master's degree after finishing their first bachelor's degree (Figure 36). This is one of the largest differences in diploma-level and above attainment between New Zealand and other OECD countries.

These one-year post-bachelor's programmes, referred to within *Education at a Glance* as 'second bachelor's', are typically professionally-oriented and often serve as pre-requisites to enter certain professions. Out of the total number of bachelor's and master's students enrolled at a New Zealand university in 2017 (both full-time and part-time students), 21% were enrolled in a one-year post-bachelor's programme, whereas 9% were enrolled in a master's (Figure 36).

Figure 36 New Zealand students are more likely to enrol in a second bachelor's (one-year post-bachelor's programme) than a master's degree

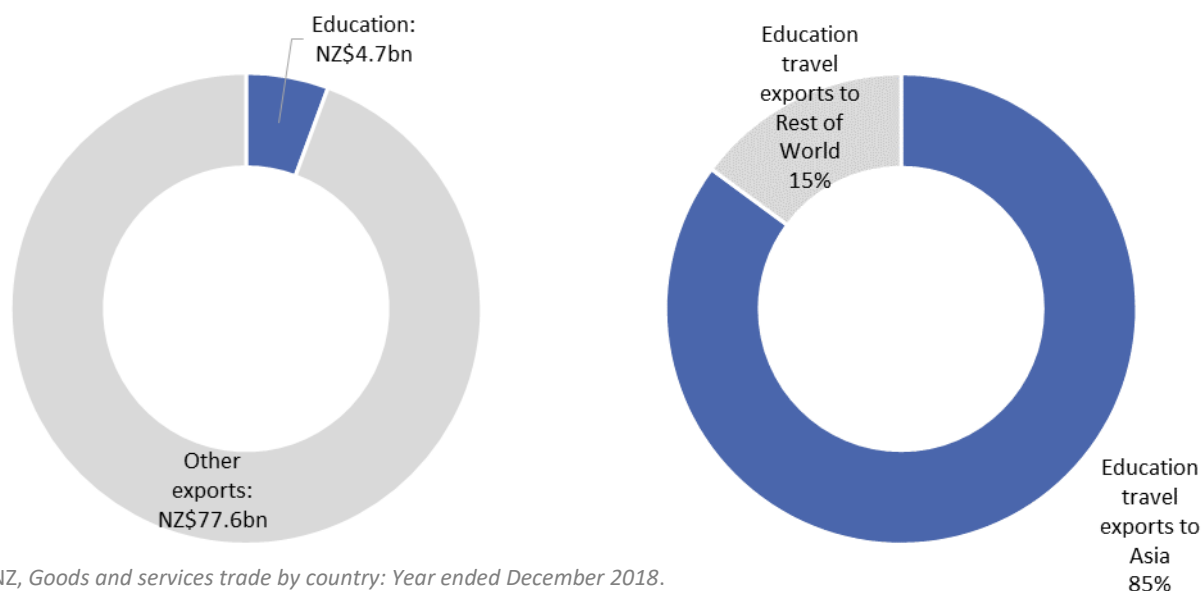


Students in full-time and part-time programmes in both public and private institutions (2017). Countries are ranked (in brackets) in descending order of the share of students enrolled in first bachelor's degrees or equivalent programmes.

International students

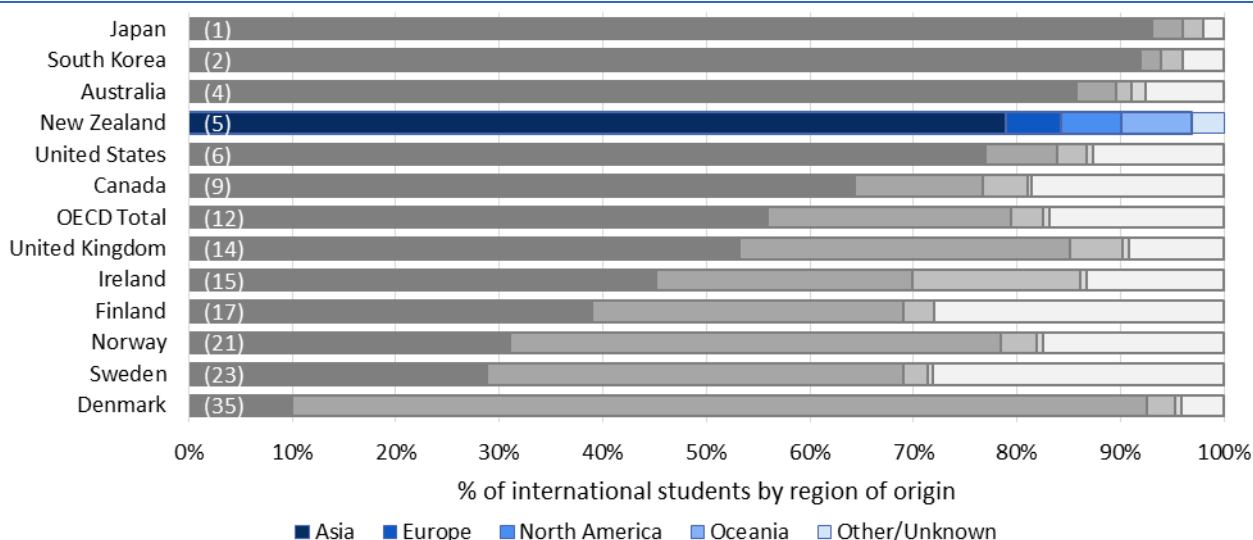
Education is one of New Zealand's major exports; in 2018, students travelling to New Zealand for their education contributed \$4.7 billion to our economy (up from \$4.2 billion in 2017). Around 80% of this was contributed by students coming to study in our diploma-level and above sector (StatsNZ, 2019), and students coming from Asia accounted for the majority of our education exports.

Figure 37 Education accounted for 6% of New Zealand's exports in 2018, and the majority of these education exports were to Asia¹⁵



As the majority of our education travel exports are to Asia, it follows that almost 80% of New Zealand's international students come from Asia (Figure 38), with 7% coming from Oceania, 6% from North America and 5% from Europe. New Zealand ranks highly amongst OECD countries in terms of the proportion of our international students coming from Asia.

Figure 38 New Zealand ranks highly in terms of the percentage of students coming from Asia

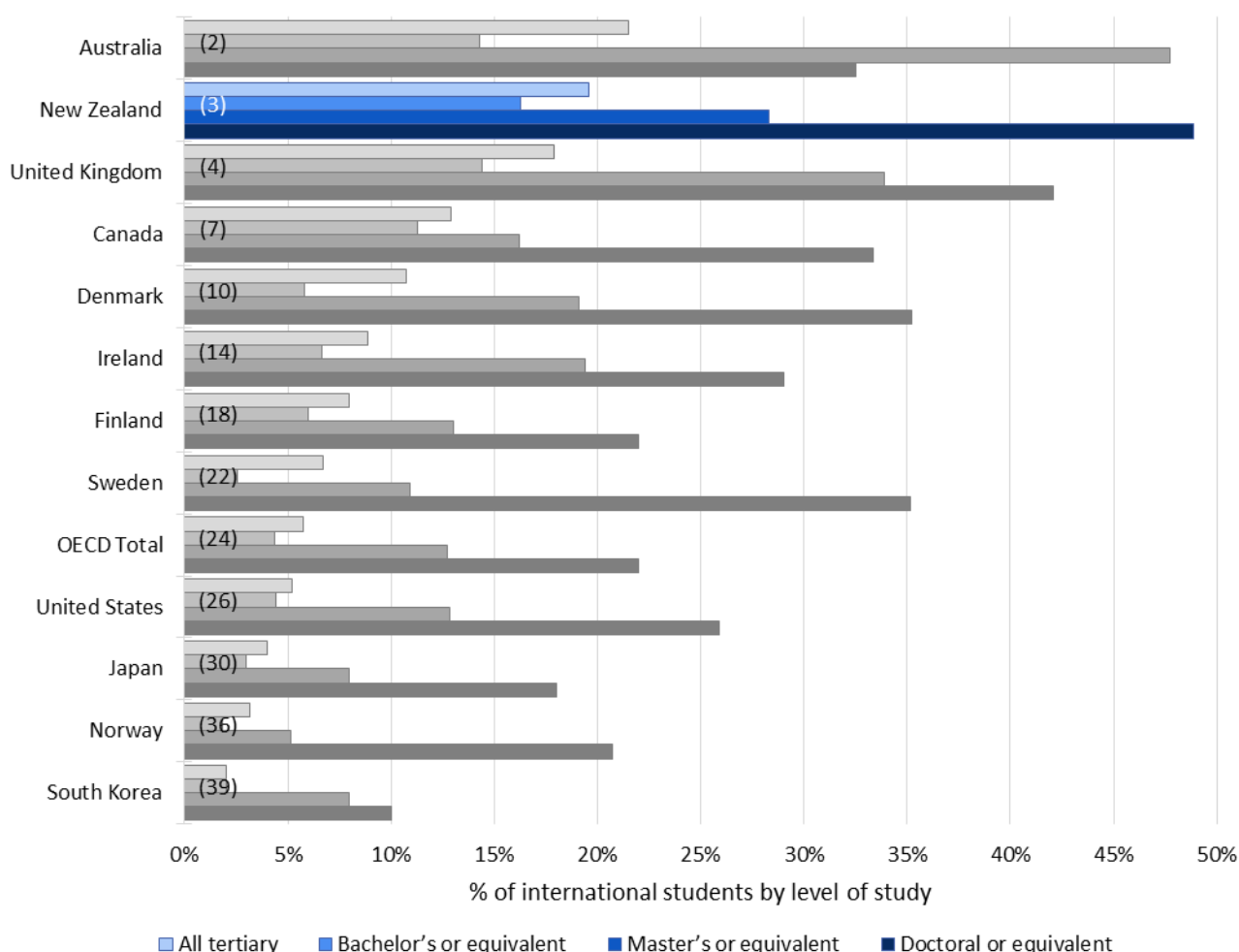


Distribution of international and foreign students by region of origin (2017). Countries are ranked (in brackets) in descending order of the percentage of international or foreign students from Asia.

¹⁵ Countries are included as "Asia" in this graph according to the United Nations' Statistical Division's *M49 Standard country and area codes for statistical use*.

International students account for a significant percentage of diploma-level and above students in New Zealand – in fact, New Zealand is ranked 3rd within the OECD in terms of the total percentage of international students in diploma-level and above education (Figure 39). International students accounted for 16% of bachelor's students in 2017 in New Zealand, for 28% of master's students, and 49% of doctoral candidates. One factor influencing the high level of international doctorate candidates is tuition fees for international students undertaking PhD's are the same as for domestic students.

Figure 39 International students account for 20% of all diploma-level and above students in New Zealand



Incoming student mobility in tertiary education, by level of study (2017). Countries are ranked (in brackets) in descending order of the percentage of international or foreign students in all tertiary education.

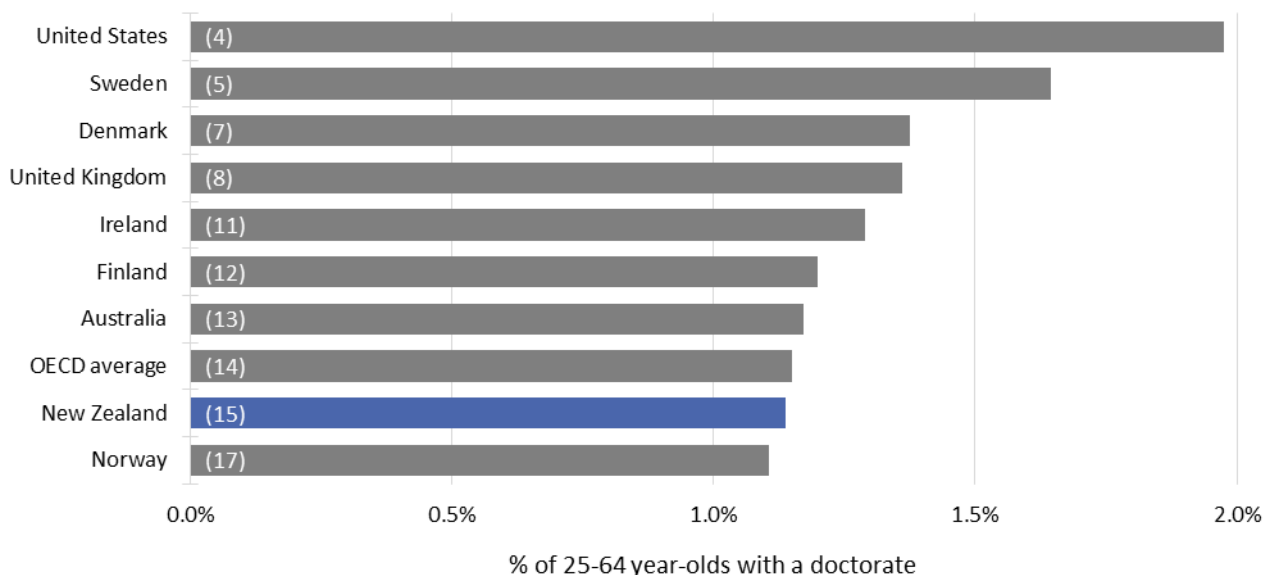
International students therefore contribute significantly to the pool of doctoral candidates in New Zealand. Funding of these students represents a significant investment, with clear benefits consistent with the goals of the International Education Strategy (Ministry of Education, 2018). While the percentage of international doctoral graduates who are employed in New Zealand drops from a relatively high 45 percent in the first year (2017), this is consistent with international trends.

The diverse benefits from this policy include contribution to research and development, with increased research output, international collaboration and productivity in New Zealand universities (sustained improvements since the introduction of this policy in 2005), indicated by the increased rate of citation of research in indexed journal publications. International doctoral candidates predominantly enrol in fields of study which are likely to lead to benefits for New Zealand through contribution to key research areas and contribution to skills gaps. International doctoral candidates who return overseas also bring value to New Zealand in the form of stronger global connections, research links and partnerships for New Zealand.

Doctoral candidates

In New Zealand, 1.14% of our population aged 25-65 years-old have doctorate degrees (Figure 40), slightly below the OECD average of 1.15%.

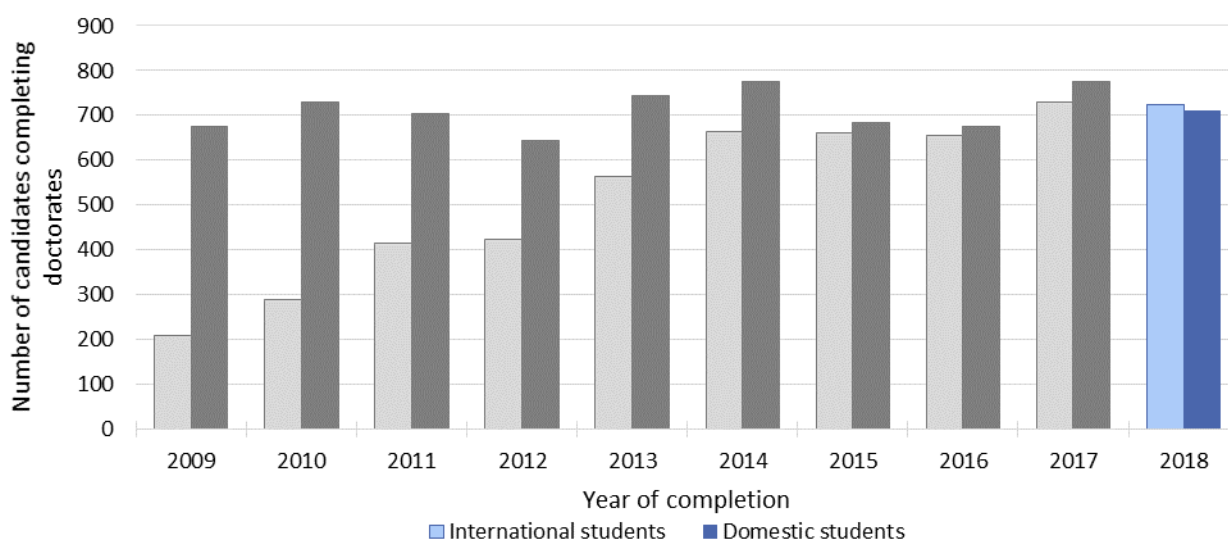
Figure 40 New Zealand ranks slightly below the OECD average for the proportion of the population with a doctorate



Share of 25-64 year-olds with a doctorate (2018). Countries are ranked (in brackets) in descending order of the share of 25-64 year-olds with a doctorate.

The number of students completing a doctorate each year in New Zealand has increased from 885 in 2009 to 1,425 in 2018 (Figure 41). In 2009 international students accounted for 24% of doctoral completions in New Zealand; this increased to 49% in 2015 and to 51% in 2018.

Figure 41 2018 was the first year more international than domestic students completed doctorates in New Zealand

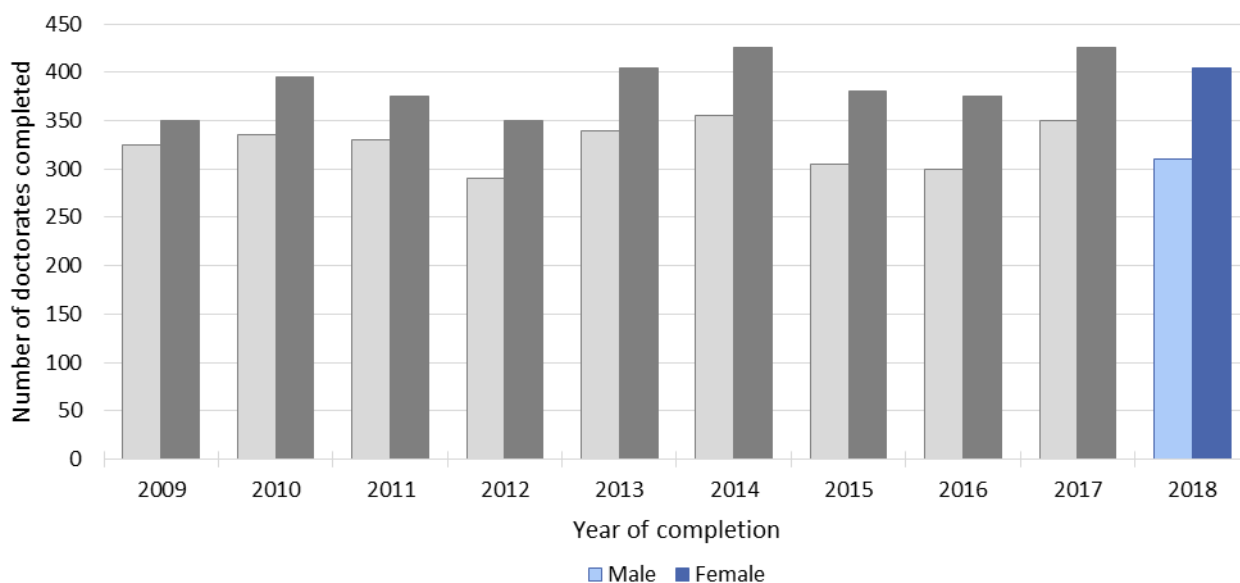


Ministry of Education, *Gaining Qualifications*. International students are those studying here without New Zealand/Australian citizenship or permanent residence status.

More women than men complete their doctorates in New Zealand, at least among domestic students (Figure 42). In 2009, 350 women completed their doctorates, accounting for 52% of doctoral completions. By 2018,

women accounted for 57% of completing doctorates, with 405 women and 310 men completing their doctorates that year.

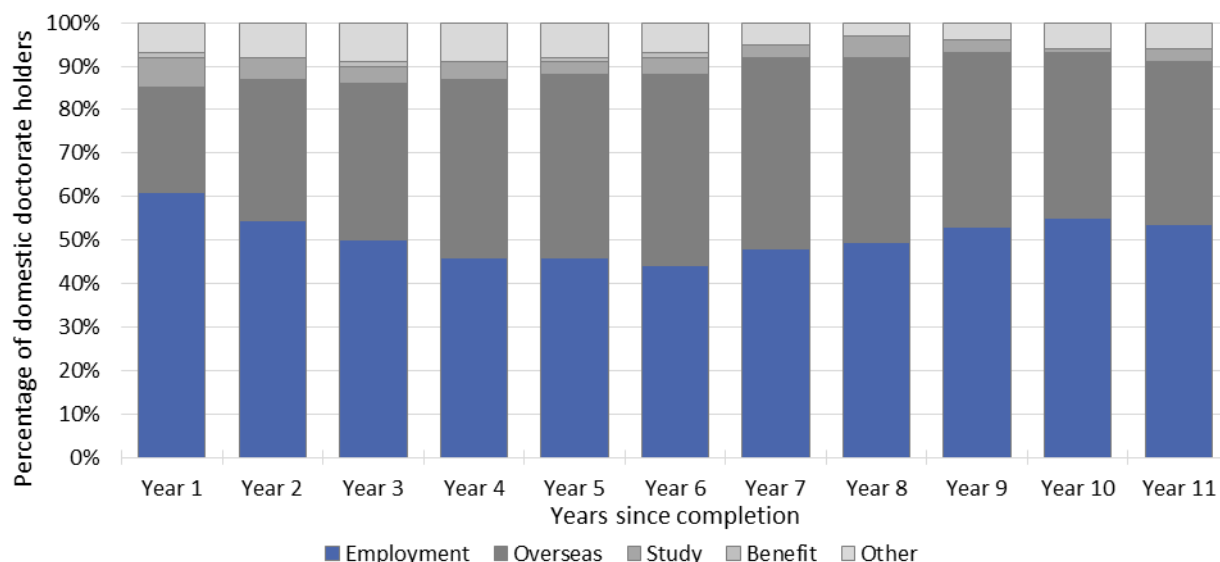
Figure 42 Women accounted for over 50% of domestic doctorate completions over the past 10 years



Ministry of Education, *Gaining Qualifications*.

The majority of domestic students who complete a doctorate in New Zealand are either in employment or are overseas within the first 11 years after the completion of their degrees (Figure 43). A small percentage engage in additional study (ranging from 7% in the first year after completion to 1% 10 years after completing their doctorates), and a very small percentage (0-1%) receive unemployment benefits.

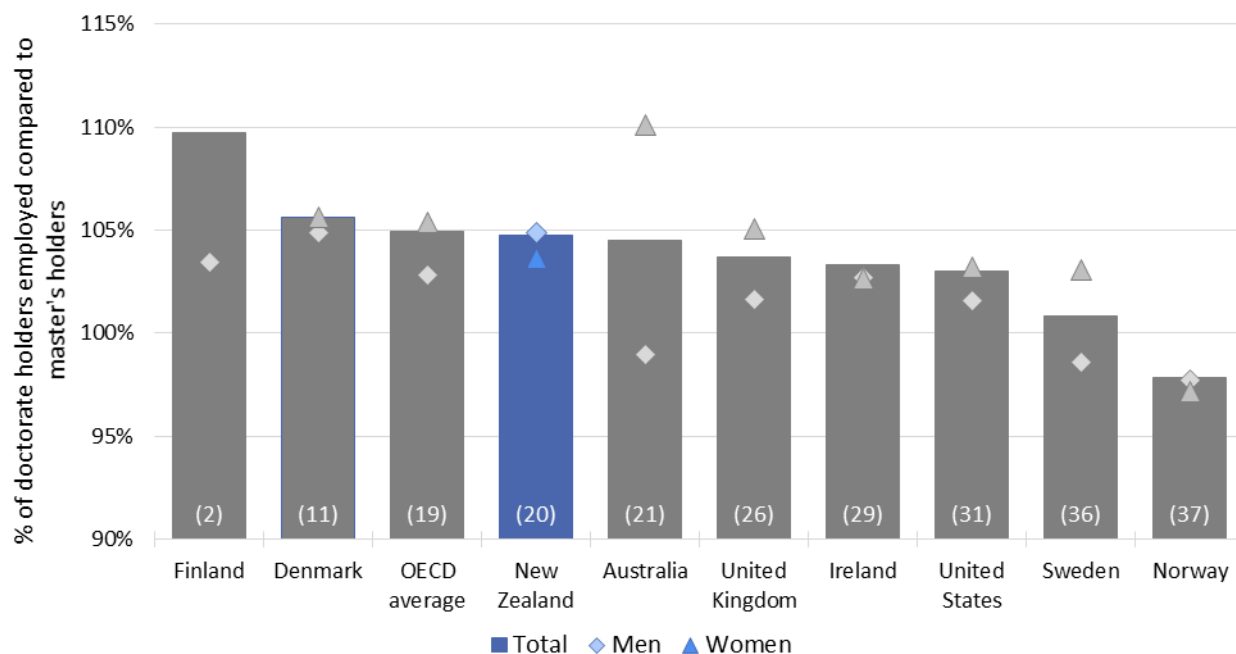
Figure 43 The majority of domestic doctorate holders are either employed or overseas



Ministry of Education, *Destinations*. Percentage of young, domestic doctorate graduates in each destination in the first to eleventh years after study.

New Zealand ranks slightly below the OECD average in terms of our relative employment rate of 25-64 year-old doctorate holders compared to master's holders (Figure 44). In New Zealand, the employment rate for doctorate holders is 5% higher than that of those with a master's. Our male doctorate holders are employed slightly more than our female doctorate holders, but overall our doctorate holders are employed with higher frequency than our master's holders.

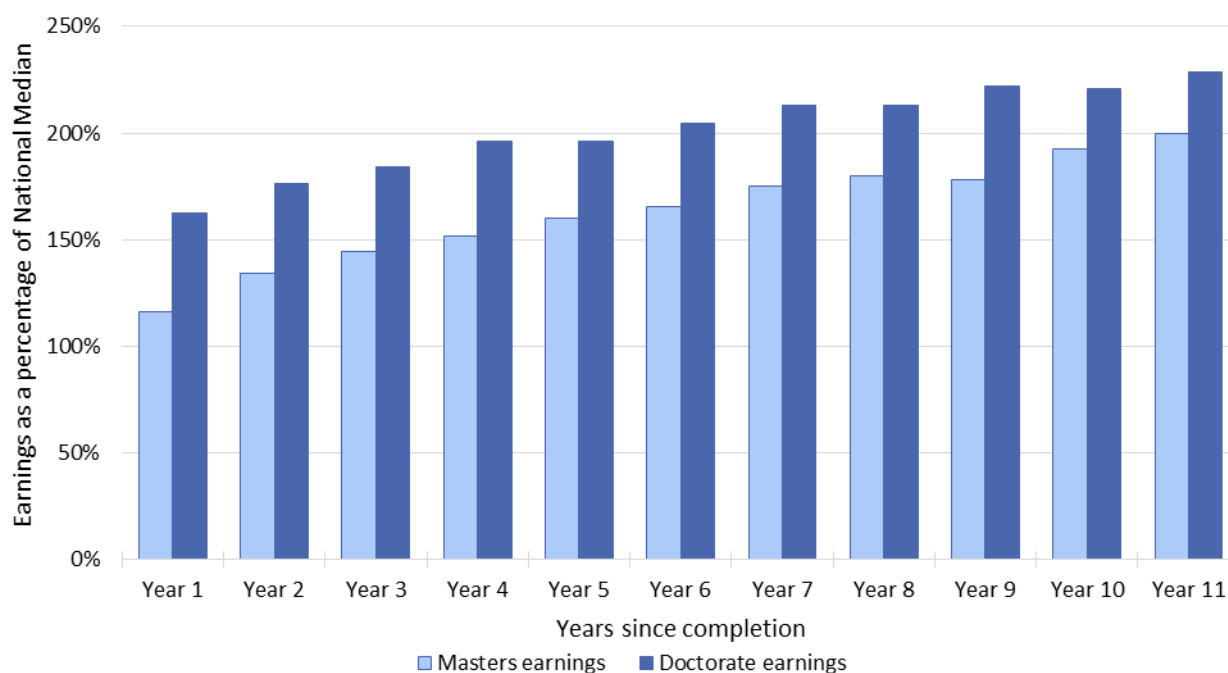
Figure 44 Doctorate holders in New Zealand are more likely to be employed than master's holders



Relative employment rate of 25-64 year-old doctorate holders compared to master's holders (2018). Countries are ranked (in brackets) in descending of the share of the relative employment rate of doctorate holders compared to master's holders.

Doctorate holders are not only more likely to be employed than master's holders in New Zealand, they also consistently earn more in the first 11 years after the completion of their qualifications (Figure 45). Although both master's and doctorate holders earn above the median annual earnings for New Zealand, for master's holders their earnings range is from 116% to 200% of the median in the first eleven years after graduation, for doctorate holders the earnings range is from 162% to 229% of the median annual earnings for New Zealand.

Figure 45 Doctorate holders consistently earn more than master's holders

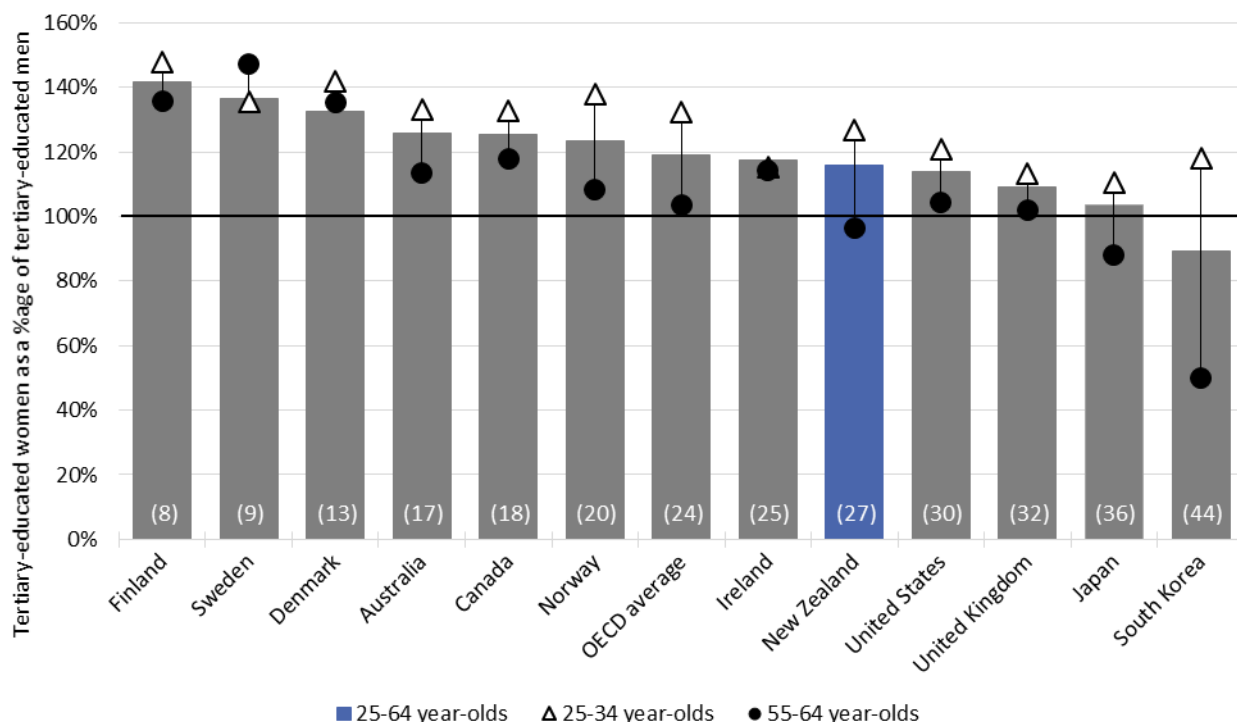


Ministry of Education, *Earnings and Destinations*. Median annual earnings and comparisons for young, domestic masters and doctorate graduates one to eleven years after study.

Gender equality in diploma-level and above education

As in many OECD countries and as indicated in Figure 42 above, more women in New Zealand have diploma-level and above qualifications than men. For every man aged 25-64 in New Zealand with a diploma-level and above education there are 1.16 women who have a diploma-level and above education (Figure 46). This is slightly below the OECD average of 1.19 diploma-level and above educated women for every diploma-level and above educated man.

Figure 46 There are more diploma-level and above educated women than men in New Zealand

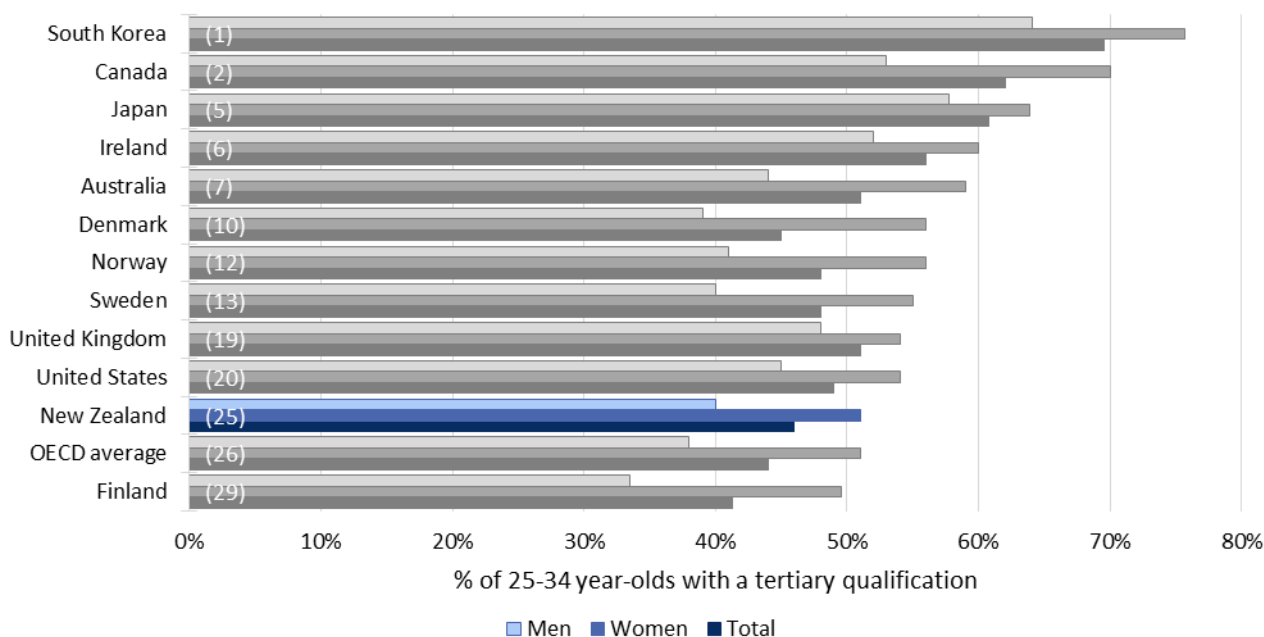


Share of diploma-level and above educated women as a percentage of the share of tertiary-educated men, by age group (2018). Countries are ranked (in brackets) in descending order of percentage point difference for the age group 25-64.

Although more women than men have diploma-level and above qualifications in New Zealand, this isn't true for all age groups (Figure 46). For older New Zealanders, men are slightly more likely to have a diploma-level and above education than women. For younger adult New Zealanders (those aged 25-34 years old), over 50% of women have a diploma-level and above qualification as their highest qualification.

Overall, 46% of people aged 25-34 years old in New Zealand had a diploma-level and above qualification in 2018 (Figure 47). New Zealand has a higher percentage of younger adults with diploma-level and above qualifications than the OECD average. Across the OECD, 44% of those aged 25-34 years old have a diploma-level and above qualification – 51% of women and 38% of men (Figure 47).

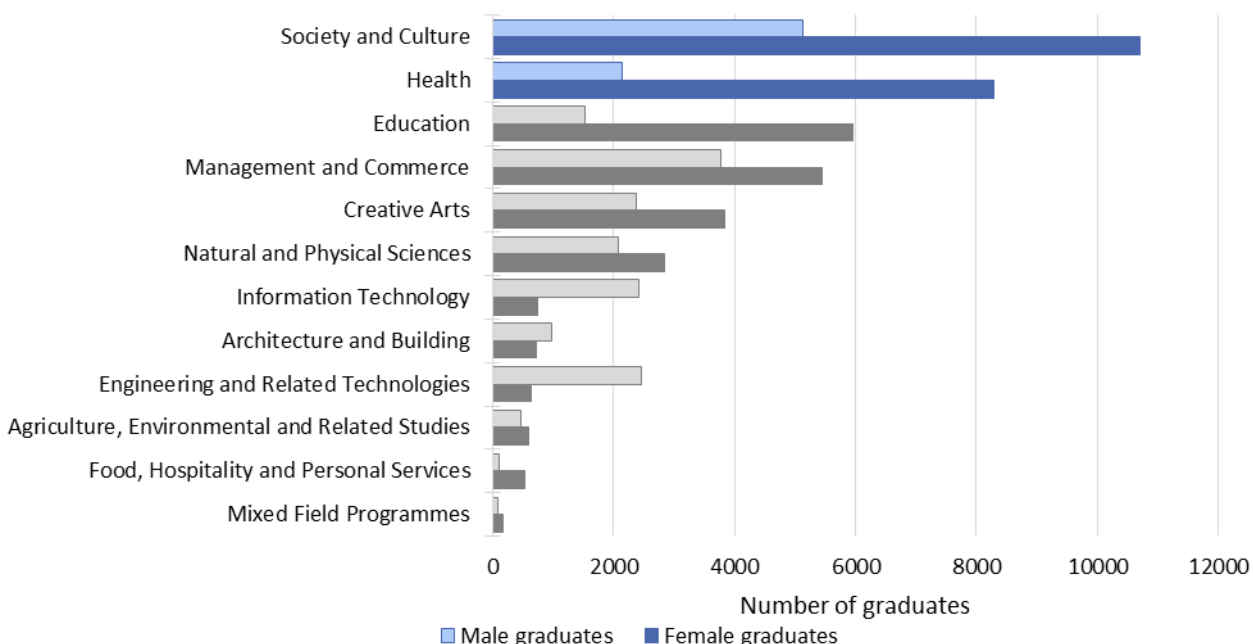
Figure 47 Nearly 50% of 25-34 year-olds in New Zealand have a diploma-level and above qualification



Percentage of 25-34 year-olds with diploma-level and above education as the highest level attained (2018). Countries are ranked (in brackets) in descending order of the percentage of women with diploma-level and above education as the highest level attained.

New Zealand not only has a gender imbalance in the percentage of men and women with diploma-level and above qualifications, but also in the type of diploma-level and above qualifications they have. For example, women in New Zealand were most likely to graduate with a qualification in Society and Culture or Health, whereas 50% of men graduated with a qualification in Society and Culture, Management and Commerce, or Engineering and Related Technologies (Figure 48).

Figure 48 In 2018, 50% of women graduated with diploma-level and above qualifications in Society and Culture or Health in New Zealand

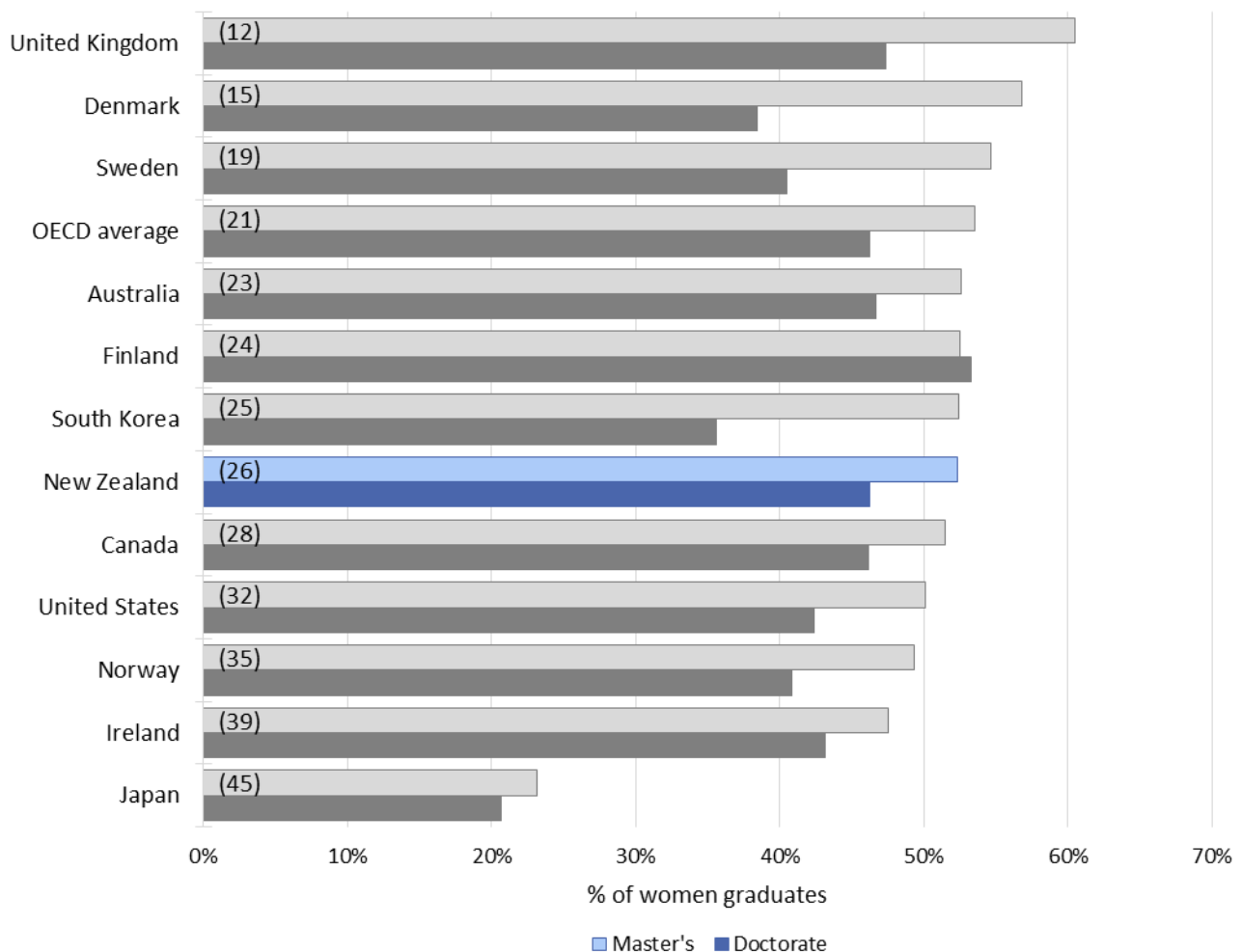


Ministry of Education, *Field of Specialisation for Students Gaining Qualifications from Tertiary Education Providers*. Share of women diploma-level and above graduates by broad field of study and all levels of tertiary qualifications (2018). Fields of study are arranged in descending order based on the number of female graduates.

While fewer women than men study subjects such as mathematical sciences at the bachelor's level (for example, women accounted for 36% of mathematical sciences bachelor's graduates and for a quarter of honours and postgraduate certificates/diplomas in 2018), they accounted for half of all doctoral graduates in mathematical sciences in 2018 (Ministry of Education, 2019).

The comparatively higher rates of women who undertake study in the natural sciences, mathematics and statistics at the higher levels of diploma-and above education is reflected within *Education at a Glance*. In New Zealand, women accounted for 52% of graduates in the natural sciences, mathematics and statistics at the master's level in 2017, ranking us 26th within OECD countries based on the percentage of female master's graduates in these subjects (Figure 49). This is slightly lower than the OECD average of women accounting for 54% of master's graduates in these subjects. In 2017 women accounted for 46% of doctorate graduates in these subjects, equal to the OECD average.

Figure 49 Women accounted for over 50% of graduates in the natural sciences, mathematics and statistics at the master's level in 2017 in New Zealand

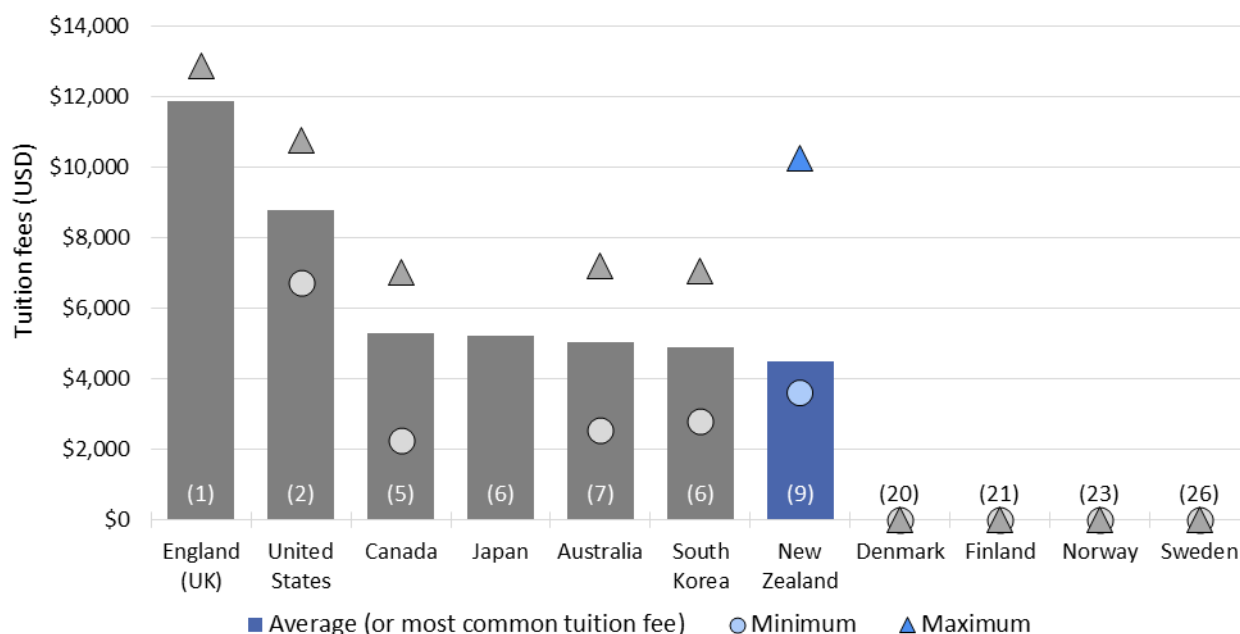


Share of women graduates in natural sciences, mathematics and statistics at master's and doctoral levels (2017). Countries are ranked (in brackets) in descending order of the share of women with master's degrees in natural sciences, mathematics and statistics.

Financing diploma-level and above education

In New Zealand, as in many OECD countries, students are charged fees for their diploma-level and above education. Generally, the fees charged for bachelor's study in New Zealand are lower than in comparative economies (Figure 50). The average annual tuition fee for a bachelor's degree in New Zealand being US\$4,487, although some degrees are more expensive – the maximum annual fee for a bachelor's degree in New Zealand was over US\$10,000 in 2017/18 for degrees such as Medicine and Dentistry.

Figure 50 The average annual tuition fee for a bachelor's degree in New Zealand is below US\$5,000

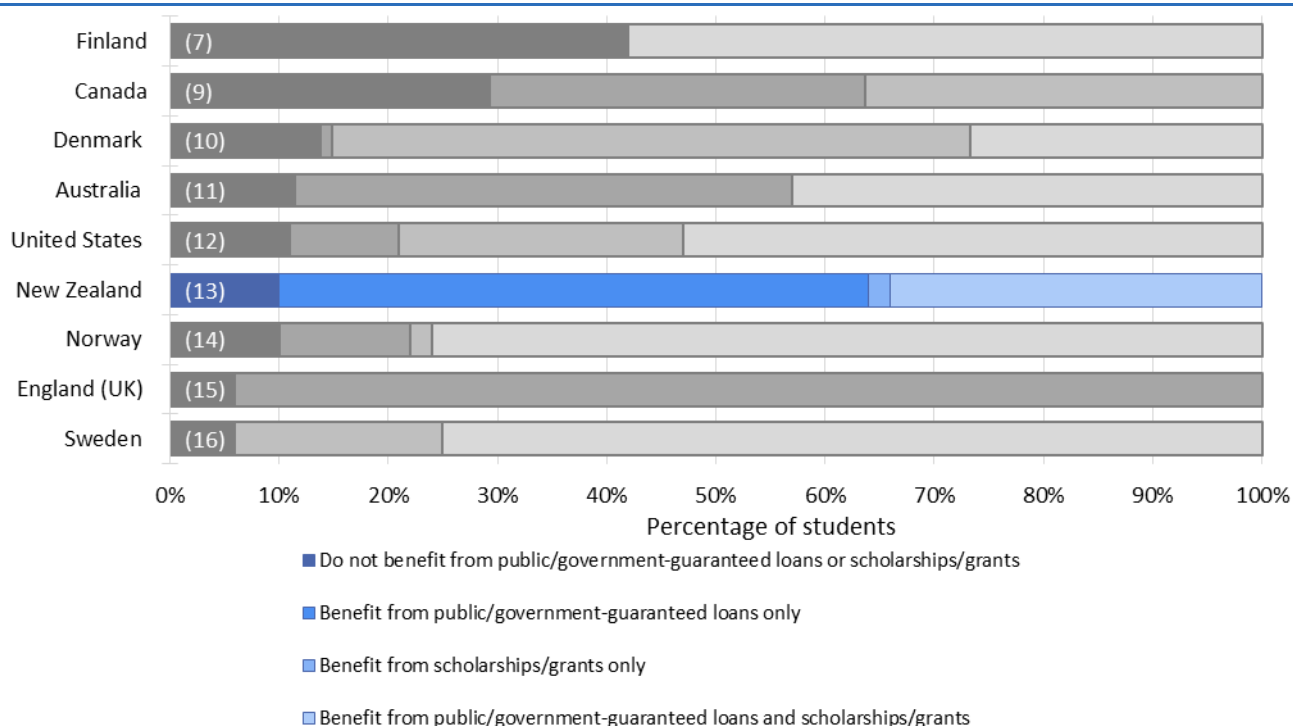


Minimum, maximum and average (or most common) annual tuition fees charged by public institutions for national students at bachelor's or equivalent level (2017/18). Countries are ranked (in brackets) in descending of annual average (or most common) tuition fees. Tuition fees are given in equivalent USD converted using PPPs for GDP.

Paying for diploma-level and above education is still a significant cost to potential students, however. In New Zealand, 90% of diploma-level and above students benefit from some form of public/government-guaranteed loans, scholarships or grants – which in New Zealand terms, means government-funded student loans, allowances or scholarships (Figure 51). New Zealand is ranked 13th within OECD countries in terms of the share of students who do not benefit from public/government-guaranteed loans or scholarships/grants. Over half of New Zealand diploma-level and above students benefit from public/government-guaranteed loans only, 2% from scholarships/grants only, and 34% benefit from public/government-guaranteed loans and scholarships/grants.

Please note that the data in this section is from 2017 or earlier. Any impacts from the introduction in 2018 of first-year fees-free study for first-time eligible students are not included in this data.

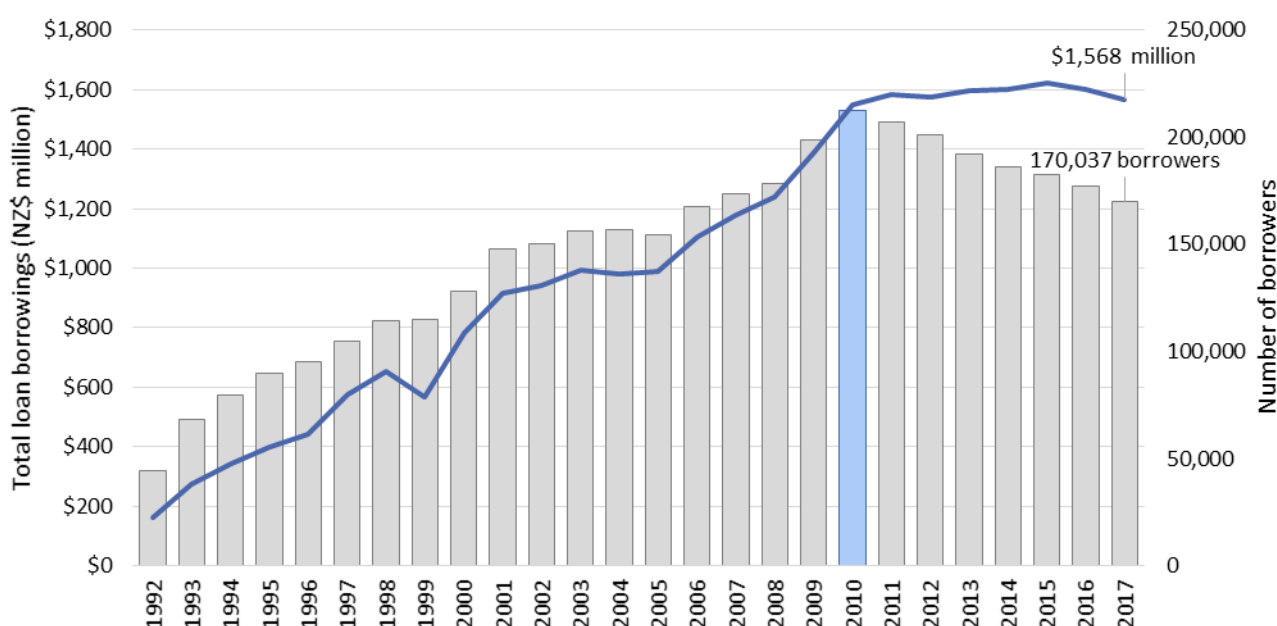
Figure 51 The majority of diploma-level and above students in New Zealand benefit from some form government financial student support



Distribution of students benefiting from public/government-guaranteed loans and scholarships/grants in bachelor's and master's long first degrees or equivalent (2017/18). Countries are ranked (in brackets) in descending of the share of students who do not benefit from public/government-guaranteed loans or scholarships/grants.

The high percentage of New Zealand students who benefit from government assistance means that total student loan borrowings in New Zealand reached over NZ\$1.6 billion in 2014, although the total number of borrowers peaked in 2010 (Figure 52).

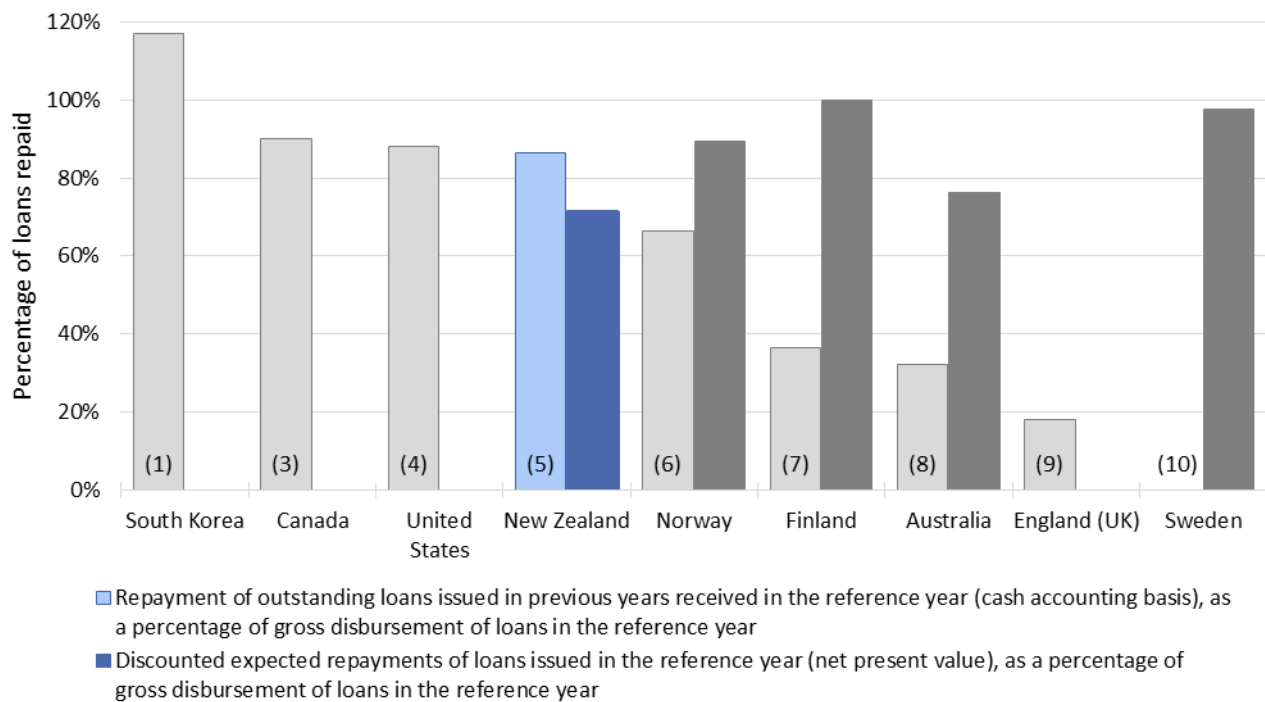
Figure 52 Total student loan borrowings in New Zealand have decreased in recent years, as has the number of borrowers



Education Counts, Student Loan Scheme Annual Report 2018.

In New Zealand, the repayment of outstanding loans received in 2017 represents nearly 90% of the gross disbursement of loans issued in previous years (Figure 53), ranking us 5th in descending order of the percentage of student loans repaid based on the cash accounting basis methodology.

Figure 53 Nearly 90% of the value of loans issued prior to 2017 has been repaid according to the cash accounting basis



The numbers in this figure should be interpreted with caution as they are based on estimations. The year of reference may differ across countries. Countries are ranked (in brackets) in descending order of the percentage of student loans repaid based on the cash accounting basis methodology.

The Benefits of Education

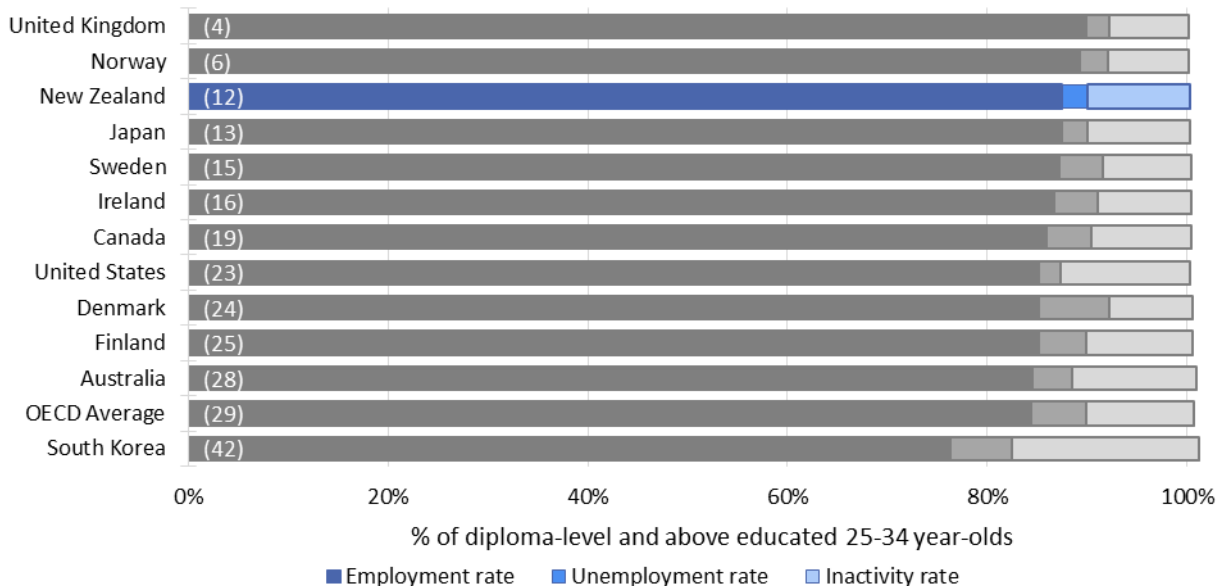
A higher level of education leads to better employment opportunities and increased earnings in New Zealand. New Zealand has a higher rate of employment for diploma-level and above educated young adults than the OECD average.

Those with a diploma-level and above education tend to have better social connectedness, read more books, and have more flexibility in their working hours than other workers. Regardless of education level, all workers in New Zealand report that their working hours interfere with their family life.

Employment and financial benefits

Nearly 90% of diploma-level and above educated 25-34 year-olds in New Zealand are employed, which is higher than the OECD average of 84% (Figure 54). New Zealand has a relatively low unemployment rate for diploma-level and above educated 25-34 year-olds (2%, below the OECD average of 6%), and the economic inactivity rate¹⁶ of New Zealanders in this age range is 10%, below the OECD average of 11%. Overall, New Zealand ranks 12th within OECD countries in terms of the employment rate of diploma-level and above educated 25-34 year-olds.

Figure 54 New Zealand has a higher rate of employment for diploma-level and above educated young adults than the OECD average

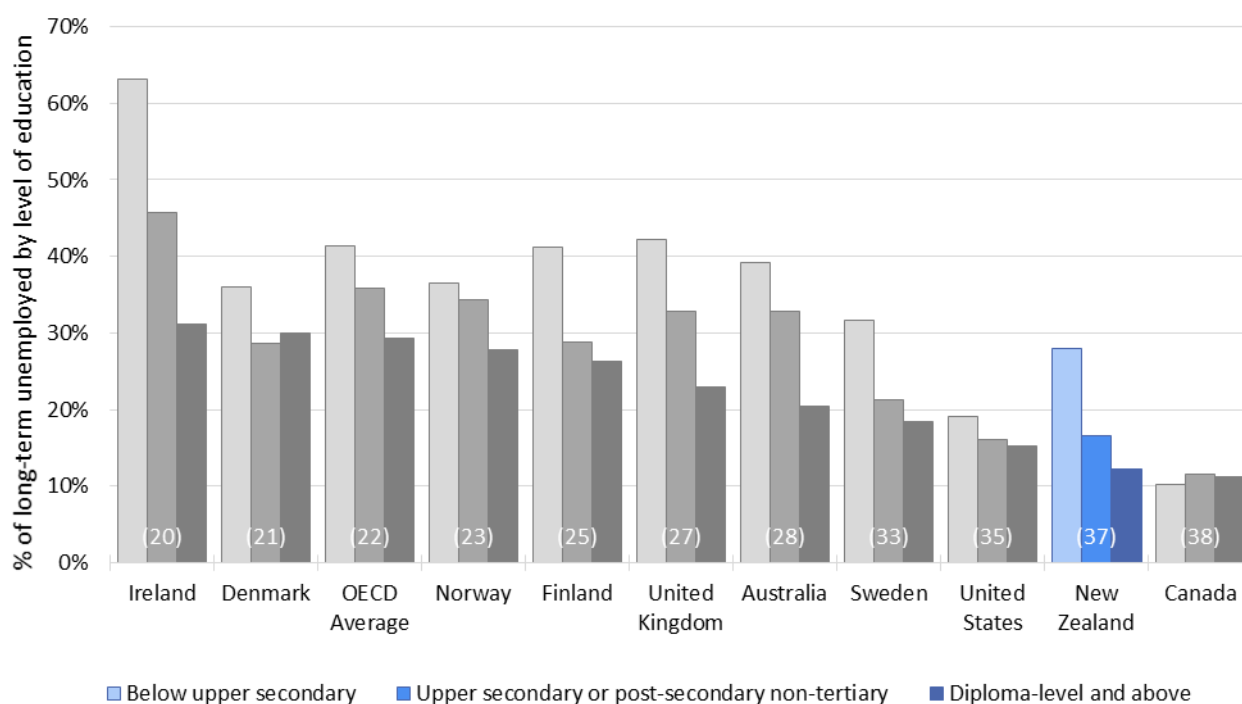


Employment and inactivity rates of diploma-level and above educated 25-34 year-olds (2018). Countries are ranked (in brackets) in descending of the share of the employment rate of diploma-level and above educated 25-34 year-olds. Employment and inactivity rates are measured as a percentage of all 25-34 year-olds; unemployment rates as a percentage of 25-34 year-olds in the labour force.

¹⁶ The economically inactive population is all people who were neither "employed" nor "unemployed" during the short reference period used to measure "current activity". This population is split into four groups: 1) Attending an educational institution; 2) Retired; 3) Engaged in family duties; and 4) Other economically inactive people. The rate is calculated as the number of economically inactive people divided by the total population.

Compared to the OECD average, New Zealand has a relatively low level of long term unemployment¹⁷ across all education levels (Figure 55). In New Zealand, only 28% of people who attained below upper secondary levels are long term unemployed, compared to the OECD average of 41%. For those who gained upper secondary or post-secondary non-tertiary qualifications, the long term unemployment rate is at 17% in New Zealand, and for diploma-level and above graduates this drops to 12%, the fourth lowest in the OECD and significantly lower than the OECD average of 29% long term unemployment for equivalent graduates.

Figure 55 Those with less education are more likely to be long-term unemployed in New Zealand

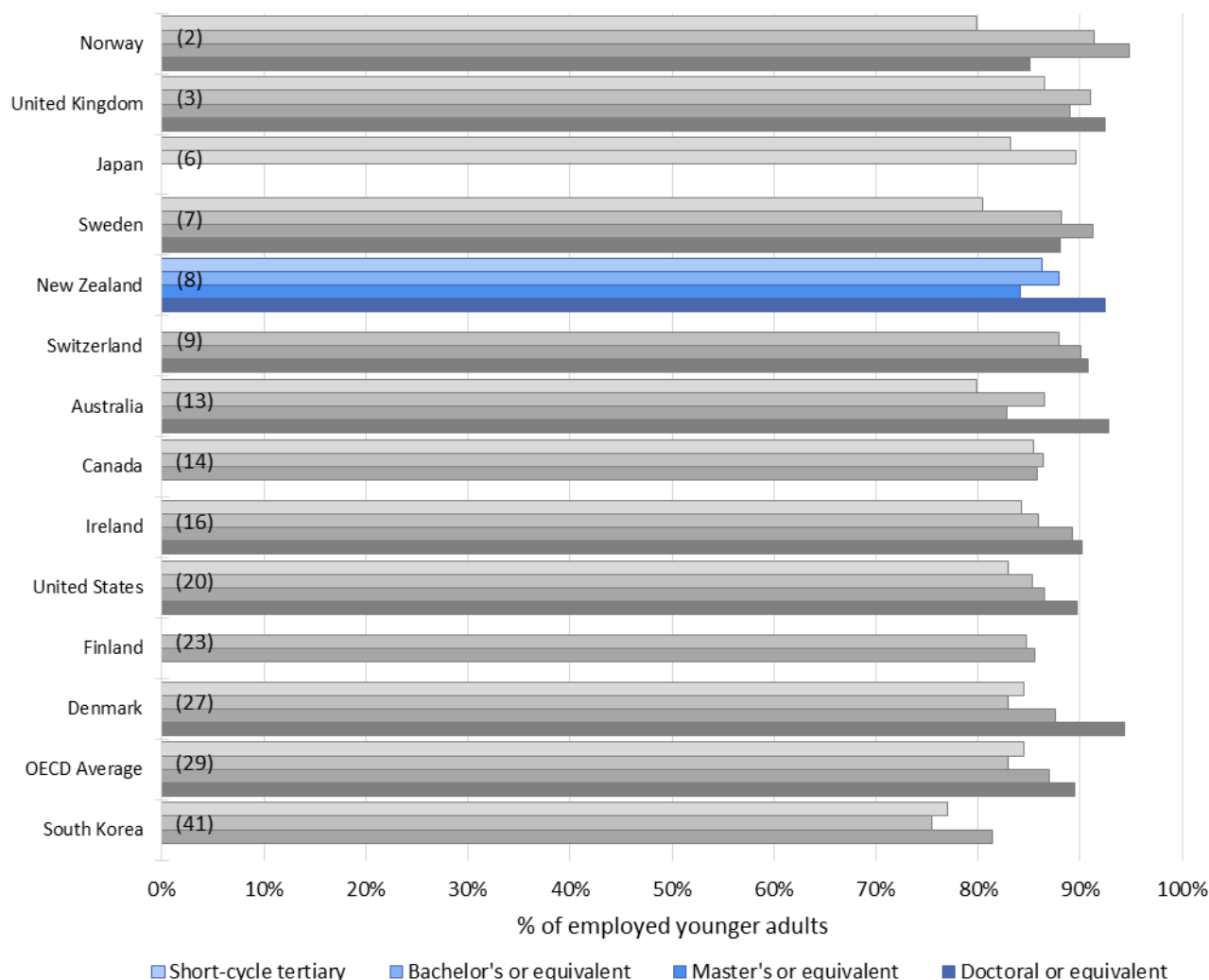


Percentage of long-term unemployed 25-64 year-olds, by educational attainment (2018). Countries are ranked (in brackets) in descending order of the percentage of 25-64 year-olds with diploma-level and above education who have been unemployed for 12 months or more.

When looking more closely at the employment rates of diploma-level and above graduates (Figure 56), 88% of bachelors or equivalent graduates in New Zealand are employed, higher than the OECD average of 83%. New Zealand has the fifth highest employment rate of doctoral graduates in the OECD, with 93% of graduates employed, above the OECD average of 90%. Although our proportion of masters graduates employed is lower than the OECD average of 87%, at 84%, the employment rates of our short-cycle tertiary graduates (level 5 to 7 certificates and diplomas) are higher than the OECD average.

¹⁷ Defined as those who have been unemployed for a year or longer.

Figure 56 New Zealand's bachelor's, short-cycle tertiary and doctorate employment rates are all above the OECD average

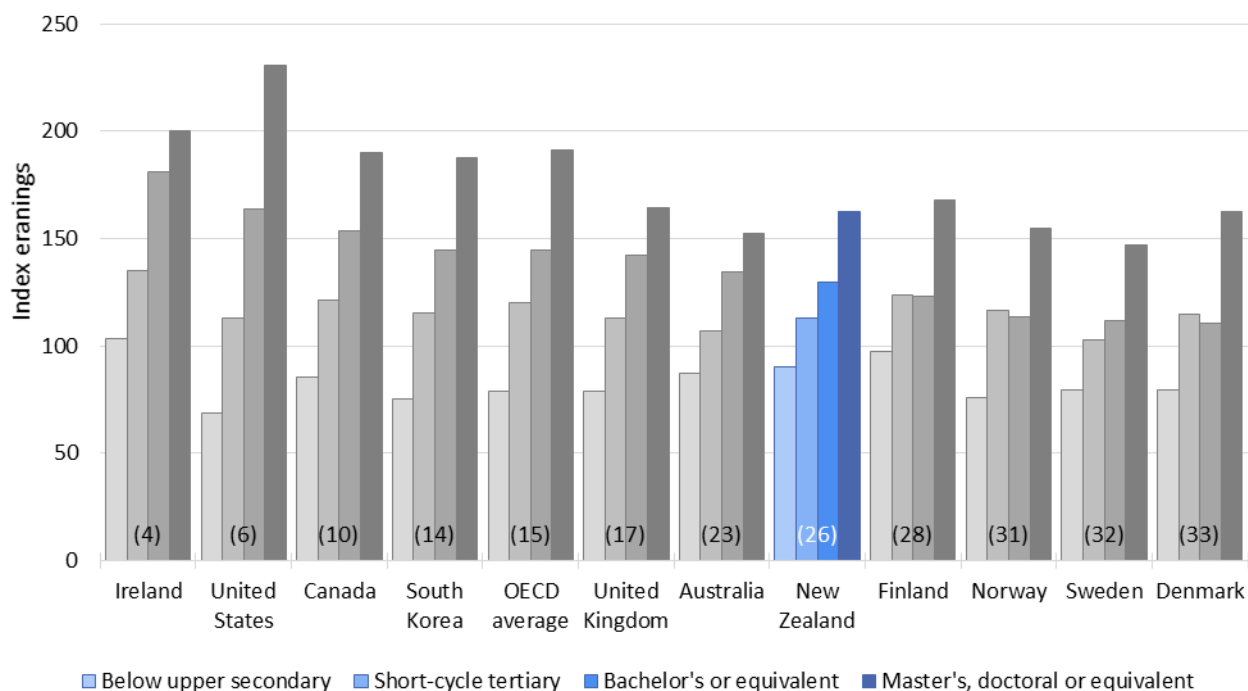


Employment rates of diploma-level and above educated younger adults, by level of education (2018). Countries are ranked (in brackets) in descending of the share of the employment rate of younger adults with a bachelor's or equivalent qualification.

Not only does a higher level of education generally lead to higher employment rates, the benefits of diploma-level and above education are also visible in relative earnings, which progress significantly as the level of educational attainment increases (Figure 57). Taking the relative earnings of those with a New Zealand Level 2 to 4 qualification¹⁸ as a baseline, New Zealand bachelor's graduates earn 30% more on average than upper secondary graduates while those with below upper secondary qualifications earn 10% less. New Zealand's doctoral graduates earn 25% more on average than our bachelor's degree holders.

¹⁸ A New Zealand Level 2 or 3 certificate is equivalent to an ISCED level 3 qualification/upper secondary qualification; a New Zealand Level 4 certificate is equivalent to an ISCED level 4 qualification/post-secondary non-tertiary qualification.

Figure 57 The higher your level of education, the higher your relative earnings are in New Zealand



Relative earnings of diploma-level and above educated adults, by educational attainment (2017). Countries are ranked (in brackets) in descending order of the relative earnings of 25-64 year-olds with a bachelor's or equivalent qualification. Index 100 refers to the combined ISCED levels 3 and 4 of the educational attainment levels in the ISCED 2011 classification.

New Zealand has higher than average absolute earnings for our diploma-level and above qualified population, though we have low relative earnings (similar to some Nordic countries). That being said, our relative gaps in earnings are smaller than the OECD average. In New Zealand, bachelor's degree graduates earn 45% more than below upper secondary graduates, and doctoral graduates earn 32% more than bachelor's graduates.

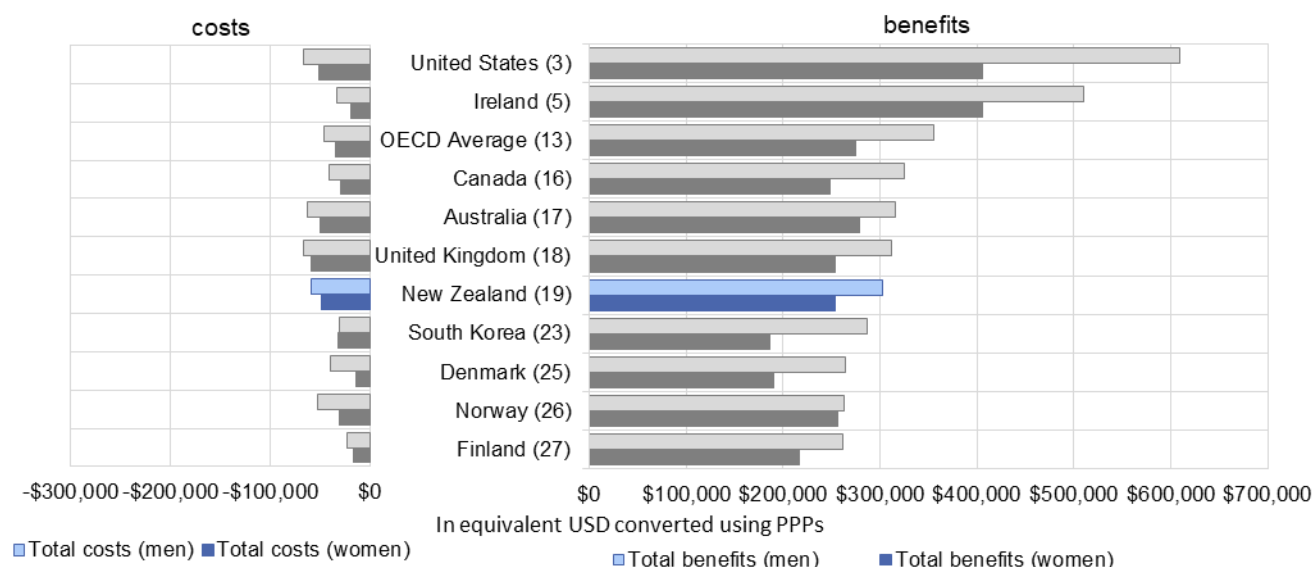
However, in New Zealand as in other OECD countries, the private benefits¹⁹ of attaining a diploma-level and above education far outweigh the private costs,²⁰ though there are differences in the costs and benefits for men and women (Figure 58). In 2016, the total costs to a man of attaining a diploma-level and above education in New Zealand were US\$59,200, while the benefits were 5.1 times higher (US\$303,000). These benefits are lower than the OECD average benefits for men for attaining a diploma-level and above education (US\$355,600) and the costs are higher than the OECD average costs for men (US\$45,300).

Both the costs and benefits for women attaining a diploma-level and above education in New Zealand are lower than that for men (Figure 58), though the return on investment is slightly better. The private benefits to attaining a diploma-level and above education for a woman in New Zealand are US\$253,100, 5.2 times higher than the private costs (US\$48,600). As with the private costs and benefits for men, these are both higher in New Zealand than the OECD average.

¹⁹ The private costs of education in New Zealand includes anything paid by an individual to their education intuition – not only tuition fees, but also other costs like books. Private costs also include household expenditures for living and course costs sourced from student loans. The public costs of education in New Zealand includes direct funding to institutions as well as publicly funded or subsidised student loans and grants for living costs.

²⁰ The private benefits of education includes are earnings benefits; the public benefits of education include gross earnings benefits, as well as an income tax effect and a social contribution effect.

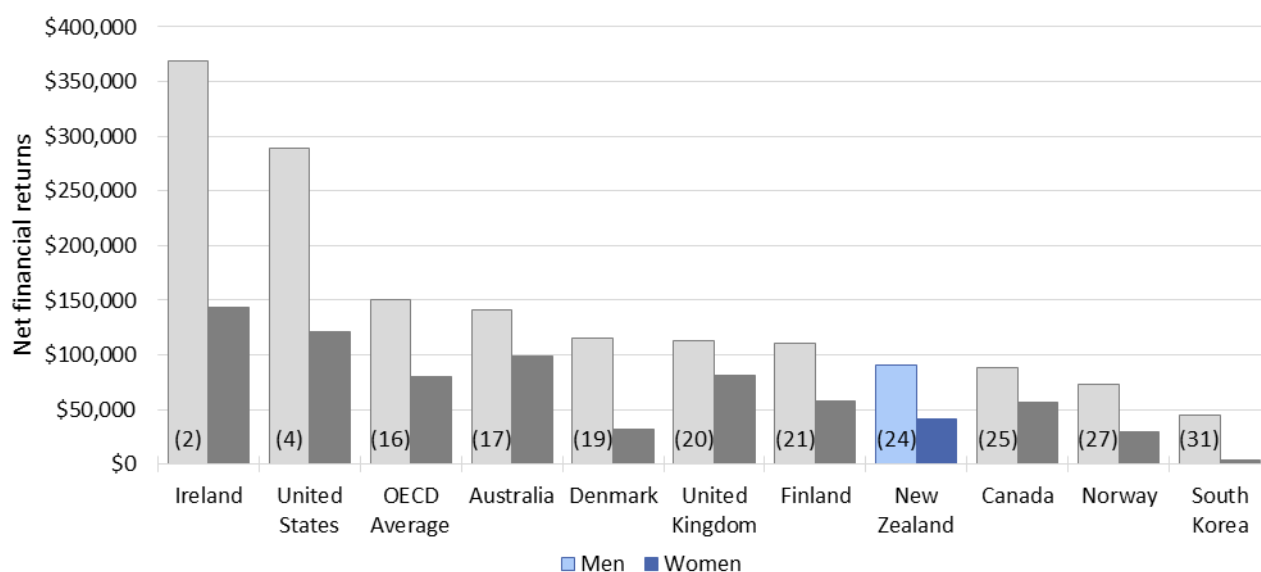
Figure 58 In New Zealand, the costs and benefits of a diploma-level and above education for men are higher than that for women



Private costs and benefits of education for a man or a woman attaining tertiary education (2016). Costs and benefits as compared with returns to upper secondary education, in equivalent USD converted using PPPs for GDP; future costs and benefits are discounted at a rate of 2%. Countries are ranked (in brackets) in descending order of total private benefits for a man.

Diploma-level and above education has both private and public costs and benefits. The costs of investment in education have been discussed above on page 7, while the public benefits of education include income tax and social contribution benefits. The net financial returns to New Zealand for a man or woman attaining a diploma-level and above education are lower than the OECD average (Figure 59) – the public net financial return for New Zealand for a man attaining a diploma-level and above education is US\$90,200, lower than the OECD average of US\$150,000; for women, the public net financial return is US\$41,900, below the OECD average of US\$80,300. The higher returns for men are due to higher employment rates and higher earnings; as in other countries, breaks in women's careers have a detrimental effect on their earnings.

Figure 59 The net financial returns for attaining diploma-level and above education in New Zealand are below the OECD average

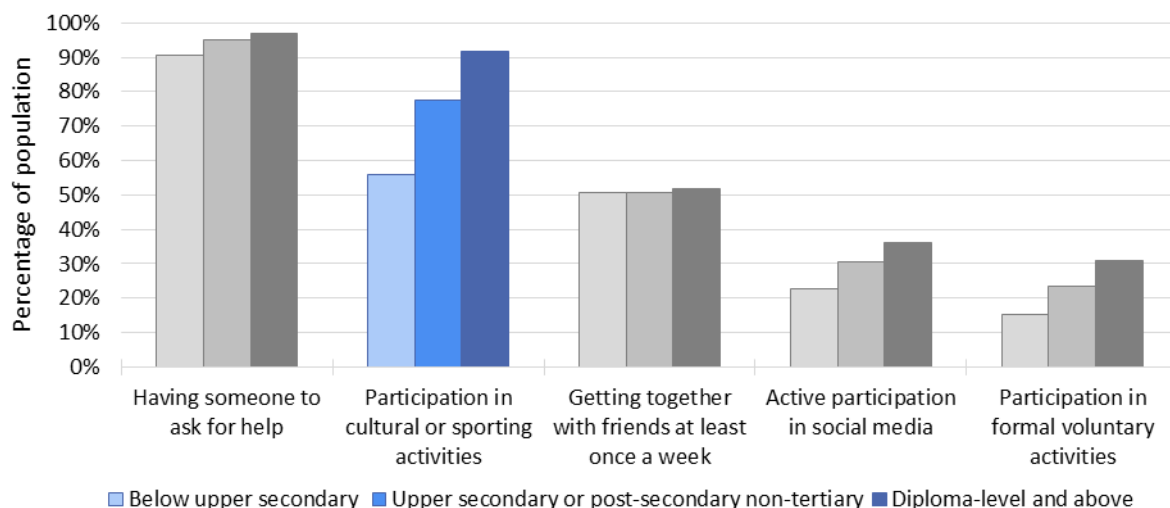


Public net financial returns for a man or a woman attaining a diploma-level and above education (2016), as compared with returns to upper secondary education, in equivalent USD converted using PPPs for GDP; future costs and benefits are discounted at a rate of 2%. Countries are ranked (in brackets) in descending order of total public returns for a man.

Social and other benefits

Education has an impact on lives beyond purely financial costs and benefits. For example, the 2015 European Union Statistics on Income and Living Conditions showed that higher education levels is associated with higher social engagement (Figure 60).

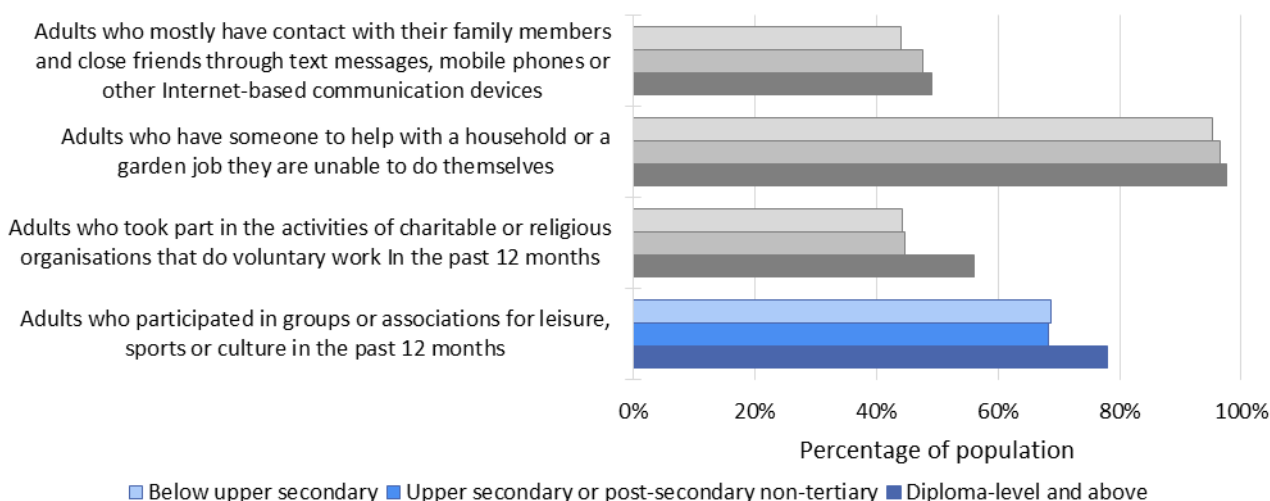
Figure 60 Data from the European Union shows that higher education attainment leads to higher social engagement



Measures of social connections, by educational attainment (2015). European Union Statistics on Income and Living Conditions (EU-SILC-2015), 25-64 year-olds, averages.

For example, 92% of diploma-level and above educated Europeans participated in cultural or sporting activities in the last 12 months, compared to 56% of those with a below upper secondary education. While New Zealand was not included in this study, we did take part in the 2017 International Social Survey Programme. Few OECD countries took part in this study and the questions asked were different between the International Social Survey Programme and the European Union survey, so the New Zealand results are presented on their own in Figure 61.

Figure 61 Diploma-level and above educated adults in New Zealand have stronger social connections than adults with other qualification levels

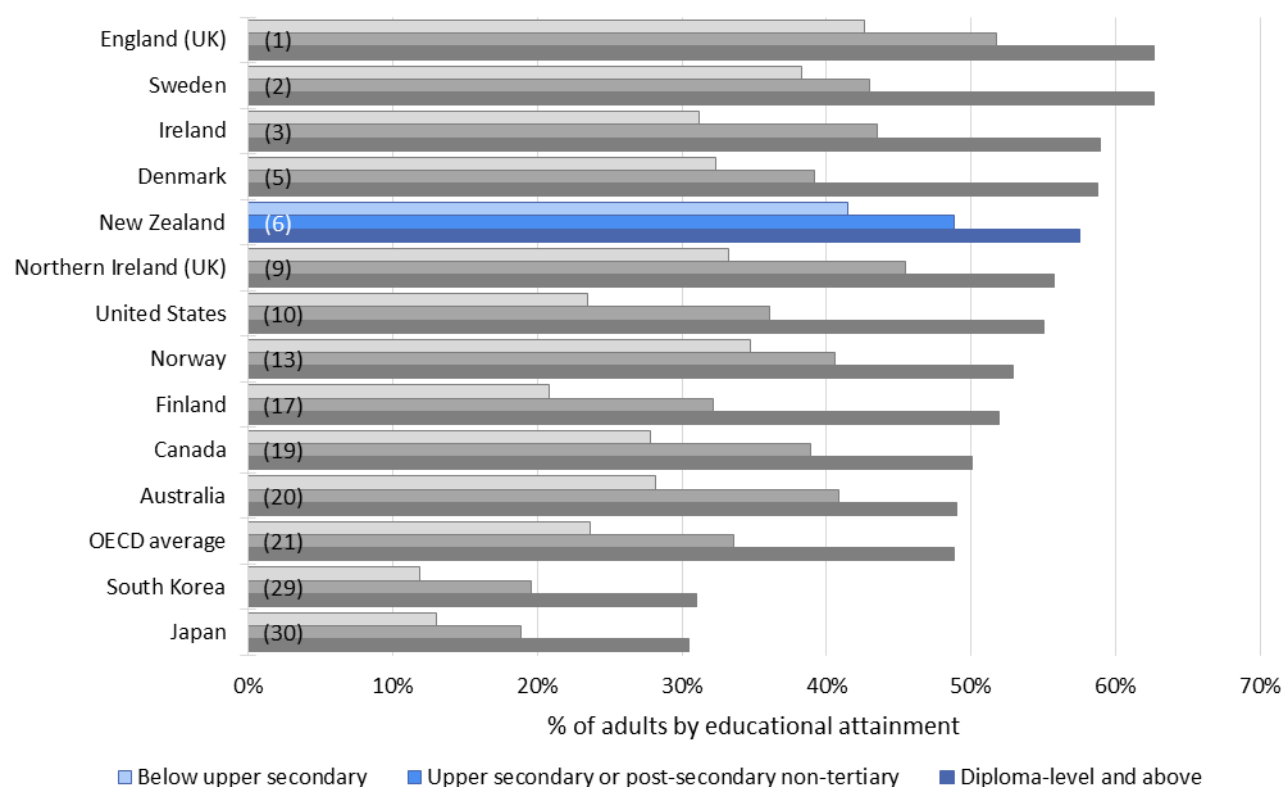


Measures of social connections, by educational attainment (2017). International Social Survey Programme (ISSP-2017), 25-64 year-olds.

Diploma-level and above educated adults in New Zealand have stronger social connections than other qualification levels (Figure 61). Over three-quarters of diploma-level and above educated adults in New Zealand participated in a group or association for leisure, sports or culture in the past 12 months, compared to 68% of those with an upper secondary or post-secondary non-tertiary education.

Those with a diploma-level and above education were also more likely to have taken part in voluntary work through charitable or religious organisations, were more likely to have someone who could help them with a household or garden job, and were more likely to use mobile phones or the Internet to stay in contact with their close friends and family than other education levels (Figure 61).

Figure 62 Over half of all diploma-level and above educated New Zealanders read books at least once a week

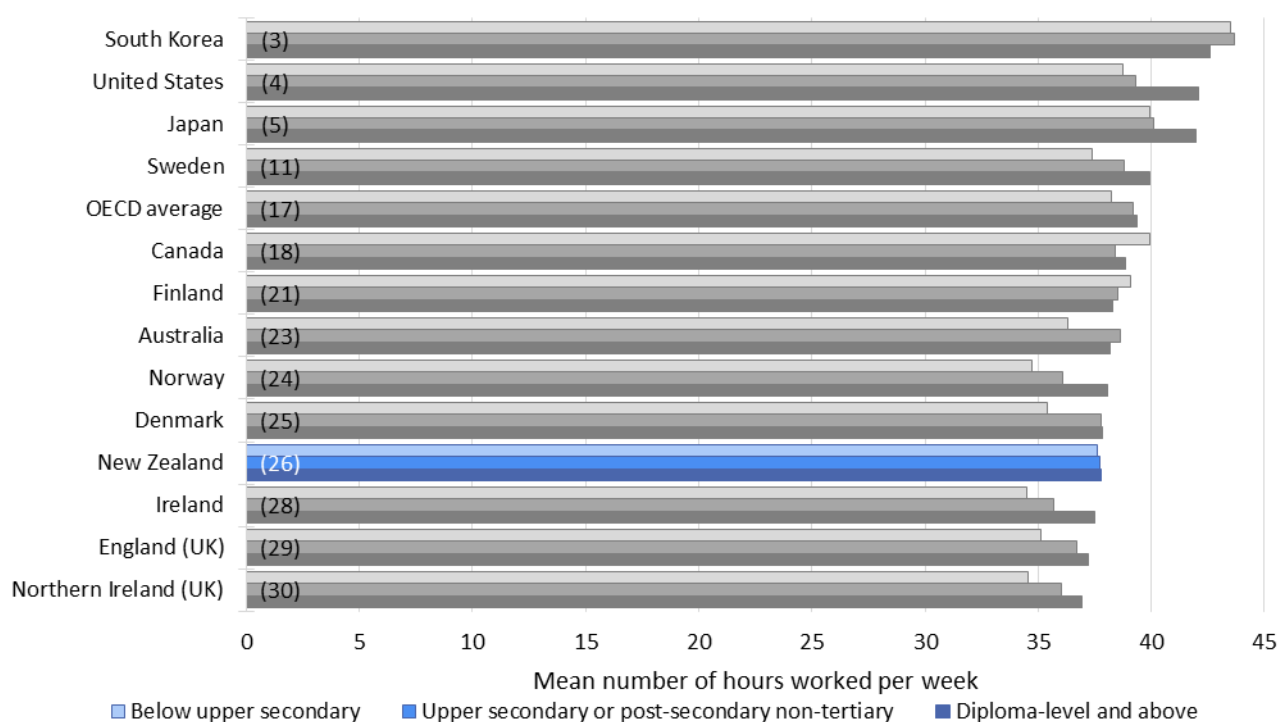


Adults who read books at least once a week, by educational attainment (2012 or 2015). Countries are ranked (in brackets) in descending order of the percentage of adults with diploma-level and above education who read books in everyday life at least once a week.

Adults with a diploma-level and above education are more likely to read books than other adults in New Zealand (Figure 62). Nearly 60% of diploma-level and above educated New Zealand adults read a book in everyday life at least once a week, compared to 49% of those with upper secondary or post-secondary non-tertiary education and 41% of those with a below upper secondary education. Overall, 52% of New Zealand adults read a book at least once a week, and we are ranked 6th within OECD countries in terms of the percentage of adults with diploma-level and above education who read books in everyday life at least once a week.

In many OECD countries (including the OECD average), the mean hours worked per week increases with the level of educational attainment (Figure 63). New Zealand is relatively unique in that this is not true for us – on a population wide level, the mean number of hours worked per week in each New Zealander's main job is 38 hours for employed 25-64 year-olds, regardless of educational attainment.

Figure 63 New Zealand's mean working hours are flat across all education levels

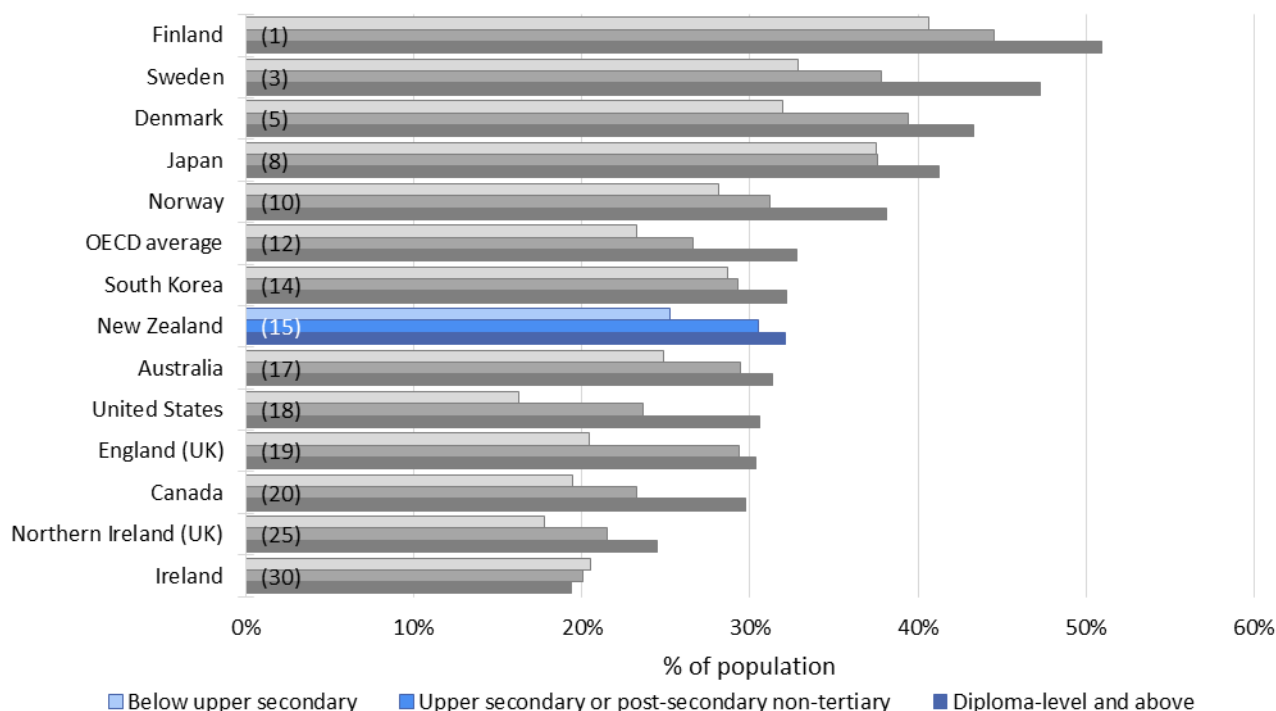


Mean number of hours worked per week in the main job among employed 25-64 year-olds (2012 or 2015). Countries are ranked (in brackets) in descending order of mean number of hours worked per week for diploma-level and above educated 25-64 year-olds.

These high level figures hide other patterns of work, however. For example, while the mean working hours are the same across all levels of education in New Zealand, there are other work-related advantages to attaining higher education such as flexibility of working hours (Figure 64).

While a quarter of New Zealanders with a below upper secondary level of education have a high or very high level of flexibility over their working hours (Figure 64), nearly a third of New Zealanders with a diploma-level and above education report the same. New Zealand is ranked slightly below the OECD in terms of the percentage of working adults who have high or very high flexibility over their working hours, as the OECD average is for 33% of diploma-level and above educated adults to have this level of flexibility. More flexibility in working hours allows for flexibility in the time spent with friends and family or partaking in community activities, and the increased availability of flexible working hours can be seen as a benefit to undertaking higher education in New Zealand.

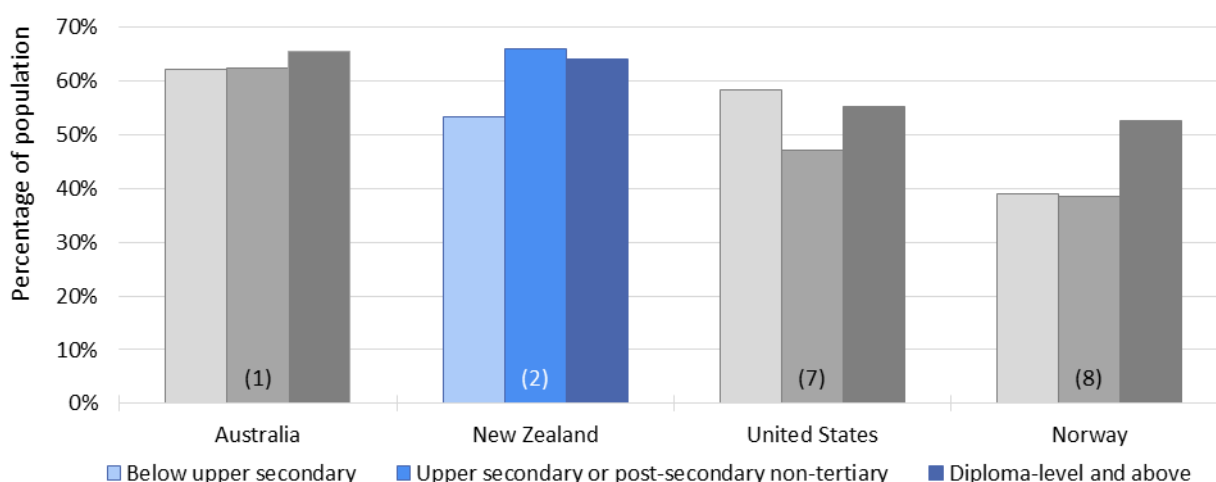
Figure 64 Nearly a third of all diploma-level and above educated adults in New Zealand have a high or very high degree of flexibility over their working hours



Job flexibility, by educational attainment (2012 or 2015). Countries are ranked (in brackets) in descending order of the percentage of diploma-level and above educated 25-64 year-olds who reported having a high or very high degree of flexibility over working hours in their main job.

That being said, over 50% of New Zealanders think that their job has a negative impact of their family life, regardless of their level of education (Figure 65). New Zealand ranks 2nd amongst countries who took part in the 2015 International Social Survey Programme in terms of the percentage of diploma-level and above educated 25-64 year-olds who reported that their job negatively impacted their family life in the last 12 months, with 64% of our diploma-level and above educated adults thinking this.

Figure 65 Regardless of education level, over 50% of New Zealanders think their job has a negative impact on family life, compared to over 60% of Australians



Job has a negative impact on family life, by educational attainment (International Social Survey Programme (ISSP-2015)). Countries are ranked (in brackets) in the percentage of diploma-level and above 25-64 year-olds who reported that their job negatively impacted their family life in the last 12 months.

Those with a upper-secondary or post-secondary non-tertiary qualification in New Zealand were even more likely to respond that their job has negatively impacted their family life in the last 12 months (66%), and in New Zealand those with a below upper secondary qualification were the least likely to report that their job has negatively impacted their family life in the last 12 months (53%). In comparison, regardless of education level, over 60% of Australians reported that their job has negatively impacted their family life in the last 12 months.

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We **shape** an **education** system that delivers
equitable and **excellent outcomes**

He mea **tārai** e mātou te **mātauranga**
kia **rangatira** ai, kia **mana taurite** ai ōna **huanga**